



Pre-historic painting depicting a battle scene, Bhimbetka



Pre-Historic Site

Bhimbetka

Madhya Pradesh

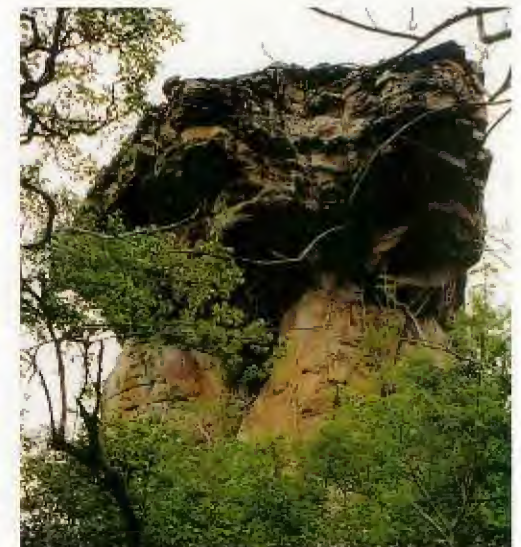
Situated in Madhya Pradesh, Bhimbetka is a pre-historic site where stone age, rock-shelters and painting dating to some thousand years have been found. According to tradition Bhima, one of the Pandavas, was supposed to have stayed here. Hence the name Bhimbetka. The rock-shelters are situated at the southern end of the Vindhya hills that abound in thick forests. Bhimbetka was first noticed as a Buddhist site based on information gathered from local adivasis in the nineteenth century. Explorations have revealed some 700 rock-shelters of which 243 are in Bhimbetka and 178 in Lakha Juar group. Archaeological evidence indicates that there has been continuous habitation here from the stone age to the late Mesolithic period. Some of the oldest stonewalls and floors are to be found here.



Pre-historic painting reflecting animals in a forest, Bhimbetka



Pre-historic caves, Bhimbetka

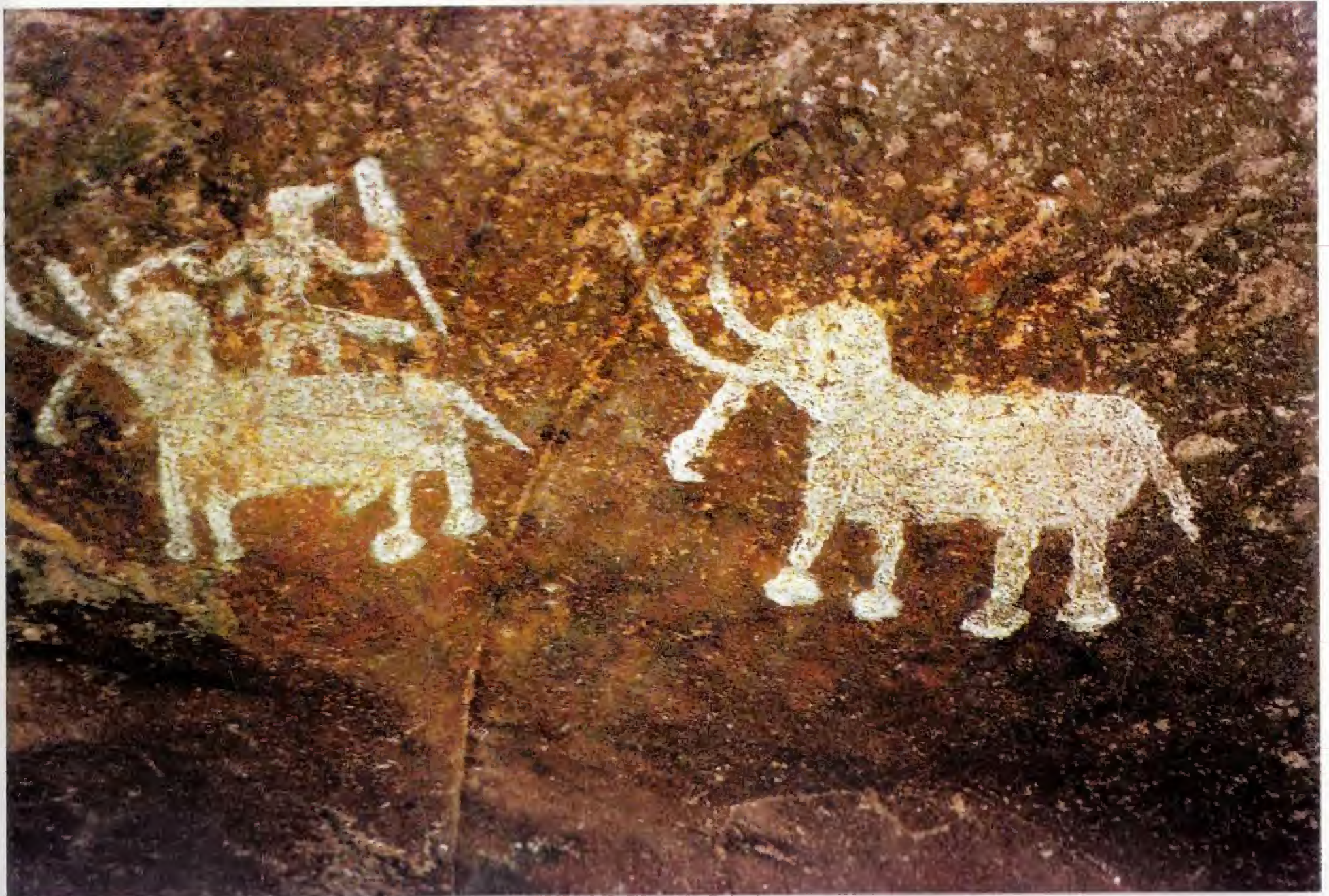


Rock-shelter, Bhimbetka

As in the famous caves of Lascaux in France, the rock-shelters and caves of Bhimbetka reveal some interesting aspects of life in pre-historic times. The paintings depict scenes of community dancing and drinking, religious rituals as well as the landscape around them that includes elephants, deers, bison etc.. Another rock painting shows peacocks and deer. There are hunting scenes where the hunters are represented fully armed with bows, arrows, swords and shields. As there are very few other rock-shelters of this type the paintings throw light on the lifestyle of the people of this region in pre-historic times that seemed to have attained a measure of development.



Reminiscing the stone age era, Bhimbetka



Pre-historic painting, Bhimbetka



North Gate of Dholavira



Proto-Historic Site

Harappan City at Dholavira

Gujarat

What was once considered a civilization restricted to the Indus valley now appears to extend deep into the heart of western India. The ancient site of Dholavira is located in Kachchh district in Gujarat. Discovered in 1967-68 the actual extensive horizontal excavation began in 1990. As in other cities of the Indus valley civilization the excavations in Dholavira revealed a major urban habitation that was well planned with roads running at right angles, buildings of special fired bricks, a simple and utilitarian architecture and an advanced system of water storage and management. The excavated site is large and suggests that it was the centre of brisk commerce and well developed urban life.



Middle town of Dholavira

From the artifacts found during excavation it is evident that this city of the Indus valley civilization had contacts with the contemporaneous civilizations of Mesopotamia, Dilmun and the cities along the Persian gulf. Unfortunately the Indus script continues to defy epigraphists and archaeologists; the decipherment of the script would yield wider information on the links of Dholavira with other settlements across the Arabian sea.



North gate of Dholavira

Glory Regained


Along with the excavation, the ASI has carried out conservation of the exposed structures and water reservoirs. The rubble stone masonry wall and structural remains of reservoirs have been repaired and restored after dismantling the damaged parts. Parts of the main citadel wall were also dismantled and reset after the procedure of photo documentation was carried out.

As this has become an area of interest, tourist facilities have been provided along with brochures and tourist guides for the visitors. A site museum-cum-interpretation centre at Dholavira has been opened for public.



Seals from Dholavira





Gateway to stupa, Sanchi

Early Historical and Historical Monuments

Monuments of Sanchi

Madhya Pradesh

Sanchi is a city of stupas. In this it resembles the ancient city of Borobudur in Indonesia and Bagan in Myanmar. While the stupas of Borobudur are built around a central edifice and Bagan is known as the City of a Thousand Pagodas, the hilltop town of Sanchi is strewn with numerous stupas which encompass the entire spectrum of architectural styles from their earliest conception to the full flowering and eventual decay of Buddhist thought spanning fourteen centuries from the time of Emperor Asoka in the third century BC to the twelfth century AD.

The transformation of Emperor Asoka (269–236 BC) from a relentless warrior whose impulse to extend his domain drove him to inflict cruelty, to the ascetic ruler who preached non-violence is one of history's poignant dramas. The last of his wars was in Kalinga where thousands were slain. Though his empire stretched from Assam to the Hindu Kush the carnage of Kalinga stayed in his soul, seeking atonement. He turned to a Buddhist philosopher, Upagupta of Mathura for guidance who told him about the rightful path and non-violence and perhaps of the transience of earthly power. It is always the awareness of mortality that compels men to seek some form of immortality. The great stupa at Sanchi is a symbol of the atonement of this great ruler.



Elephants atop a gateway column, Sanchi



Ornamental details on a pillar, Sanchi

The origin of Sanchi as a prominent Buddhist centre can have said to commence from the time of Emperor Asoka who married a woman from a merchant family of nearby Vidisha. His consort Devi had built a monastery in Vedisagari. But earlier to that, Asoka had built a stupa on the hilltop which was to grow into a monastery. The proximity to the prosperous commercial centre at Vidisha provided the monasteries with food supplies and other amenities. It is curious that while the Buddhist monks near Ajanta sought a place of retreat in the mountain fastness the monks of Sanchi wished to be near a busy urban centre. However, the involvement of the merchant families in the development of Sanchi ensured its continuance throughout the centuries of turmoil that followed the disintegration of the Maurya and the Sunga Empires. The Satavahanas offered their patronage for the development of Sanchi. There was a revival of building activities in Sanchi during the reign of the Guptas when a new school of temple architecture developed particularly in the time of Harsha.

With the decline of Buddhism around the tenth century Sanchi also fell into decline and was eventually deserted. The site was discovered by General Taylor who discovered the ruins in 1818. Four years later Captain Johnson who was stationed in Bhopal excavated Stupa-1 and in 1851 Alexander Cunningham found relic caskets from the ruins which had been plundered by villagers. The systematic preservation of the site began in 1881 under the supervision of Major Cole who attended to the dome of Stupa 1 and repaired the damaged gateways. The most important conservation works were taken up by Sir John Marshall, Director General of Archaeology who cleared the thick vegetation, dismantled and rebuilt stupas, reset out-of-plumb pillars, rebuilt retaining walls, re-roofed and repaired temples. Marshall restored the site to the conditions it probably was at the time of its glory.

The most famous monument of Sanchi is the Great Stupa with its hemispherical truncated dome topped by a triple umbrella or *chhatravali* set at the centre. The existing stupa encases an earlier stupa which was said to have been built by Emperor Asoka. The stupas have balustrades, high terraces that were processional paths, square railings encircling a pedestal upon which reposed the triple umbrella. The most distinguishing feature of the main Sanchi stupa is the elaborately carved gateways or *toranas* that were first built during the Satavahana era in the first century BC. The stupa has an austere grandeur, the four elaborately carved gateways stand as splendid sentinels in four directions. The stupas were built with sandstones from nearby quarries. The stairway balustrades are carved with flower and animal motifs.



Distant view of the gateway and stupa, Sanchi



Close-up shot of a gateway, Sanchi



Intrinsically created icon, Sanchi



Stupas in scenic splendour, Sanchi

The evolution of sculpture from its earlier crude form to later grace and delicacy can be seen in the gateways. The sculptures depict scenes from the various *Jatakas* - *Chhaddanta*, *Sama*, *Vessantara*, *Mahakapi*, *Allambasa* - along with scenes from the life of Lord Buddha commencing from his birth to his enlightenment, his teaching and his Parinirvana. The miracles of Sravasti and Sankasya are depicted with graceful simplicity. After the turmoil following the decline of the Mauryas, the Gupta period ushered a new era of creativity when new gateways and statues of the Buddha were built at Sanchi. This development continued up to the time of Emperor Harsha

The stupas of Sanchi had a far-reaching influence on the neighbouring countries of India. The Jetavana stupa in Sri Lanka and the stupas in Bagan in Myanmar attest to their pervading influence. The designs of the gateways were an inspiration to Chinese and Japanese architects who used these designs for their buildings both religious and secular.



Sanchi gate

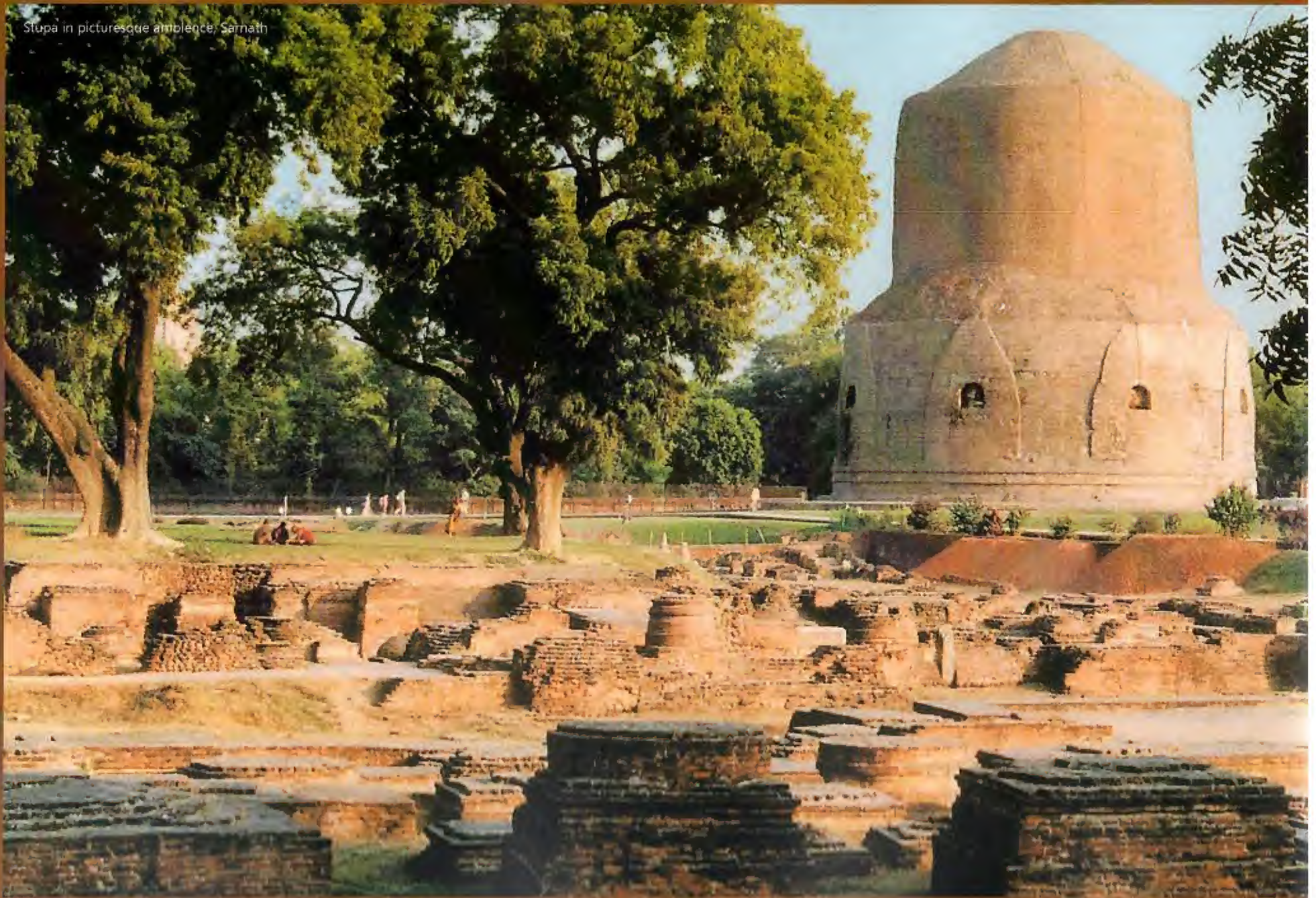


Worshipping the Bodhi tree, Sanchi

Glory Regained

As the Stūpas I, II and III were prone to water seepage, watertightening measures have been undertaken along with grouting and pointing work. The decayed and porous lime plaster was strengthened. The vegetational growth inside the harmika of Stupa No. I was removed and masonry was reset.

Stupa in picturesque ambience, Sarnath

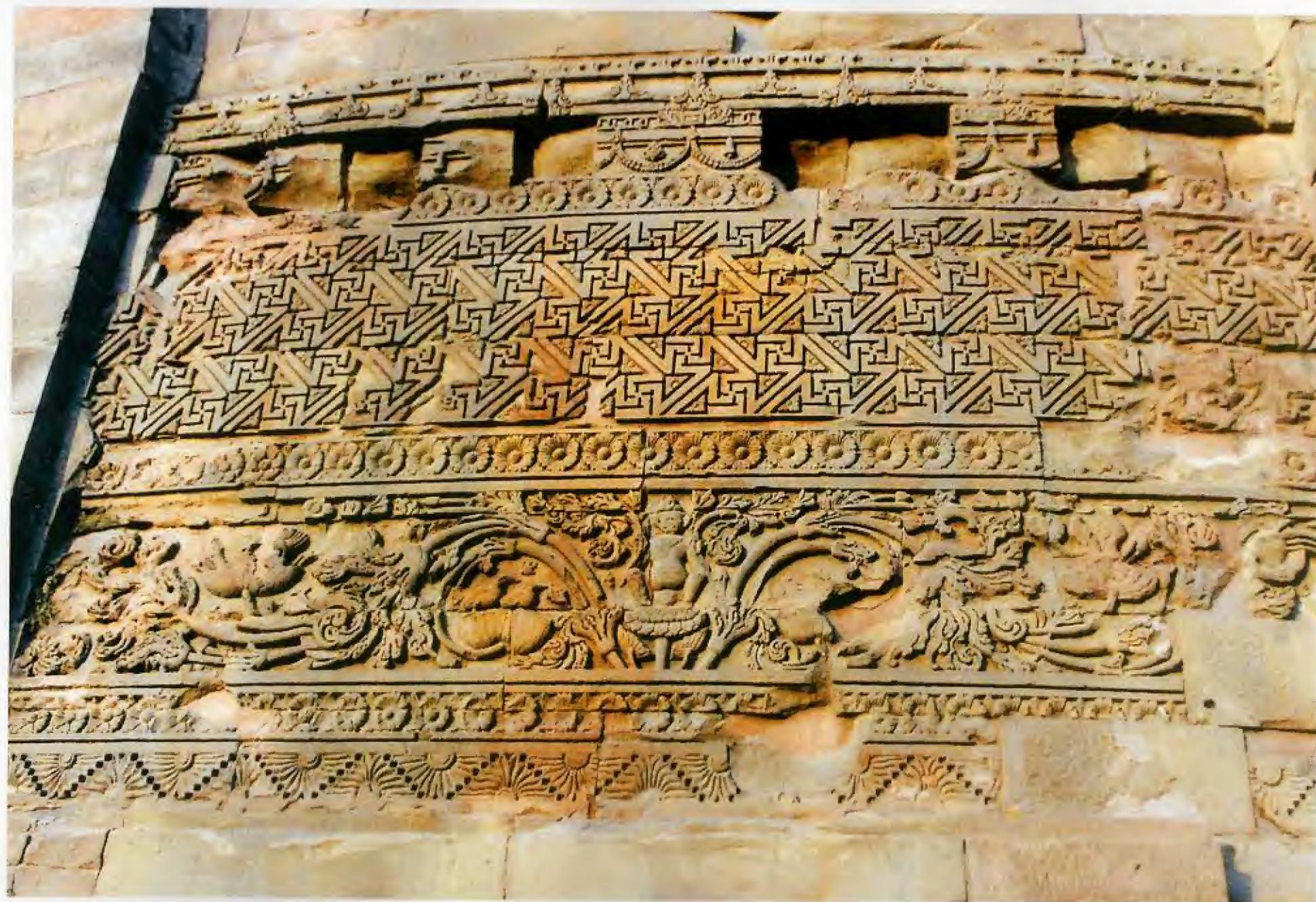




Sarnath

Uttar Pradesh

After attaining enlightenment, Lord Buddha preached his first sermon at Sarnath. Excavations at the site, in the early twentieth century, uncovered numerous temples, stupas and monasteries which were probably constructed at the time of Emperor Asoka and rulers of Kushana, Gupta and Gahadavala dynasty. The central monument is the Dharmarajika Stupa, with low terrace as the base. And before this stood Asokan pillar crowning the famous lion capital that is representative of the grandeur of Mauryan art. The lion capital is now housed in the Site museum, Sarnath and is accepted as the National emblem of our country.



Details on Dhamekhi stupa, Sarnath



Another view of stupa, Sarnath

Sarnath's sanctity as a place of the first sermon of Lord Buddha has made it an important centre of religious activity. To house the monks, numerous monasteries were constructed where pilgrims such as Hiuen Tsang stayed. The poignant drama of Lord Buddha's life was the inspiration of sculpture and art. This school of art found its culmination in the exquisite statue called the preaching Buddha of Sarnath.



Preaching Buddha, Sarnath Museum



Sculptured panel against the backdrop of Gupta Sarvath



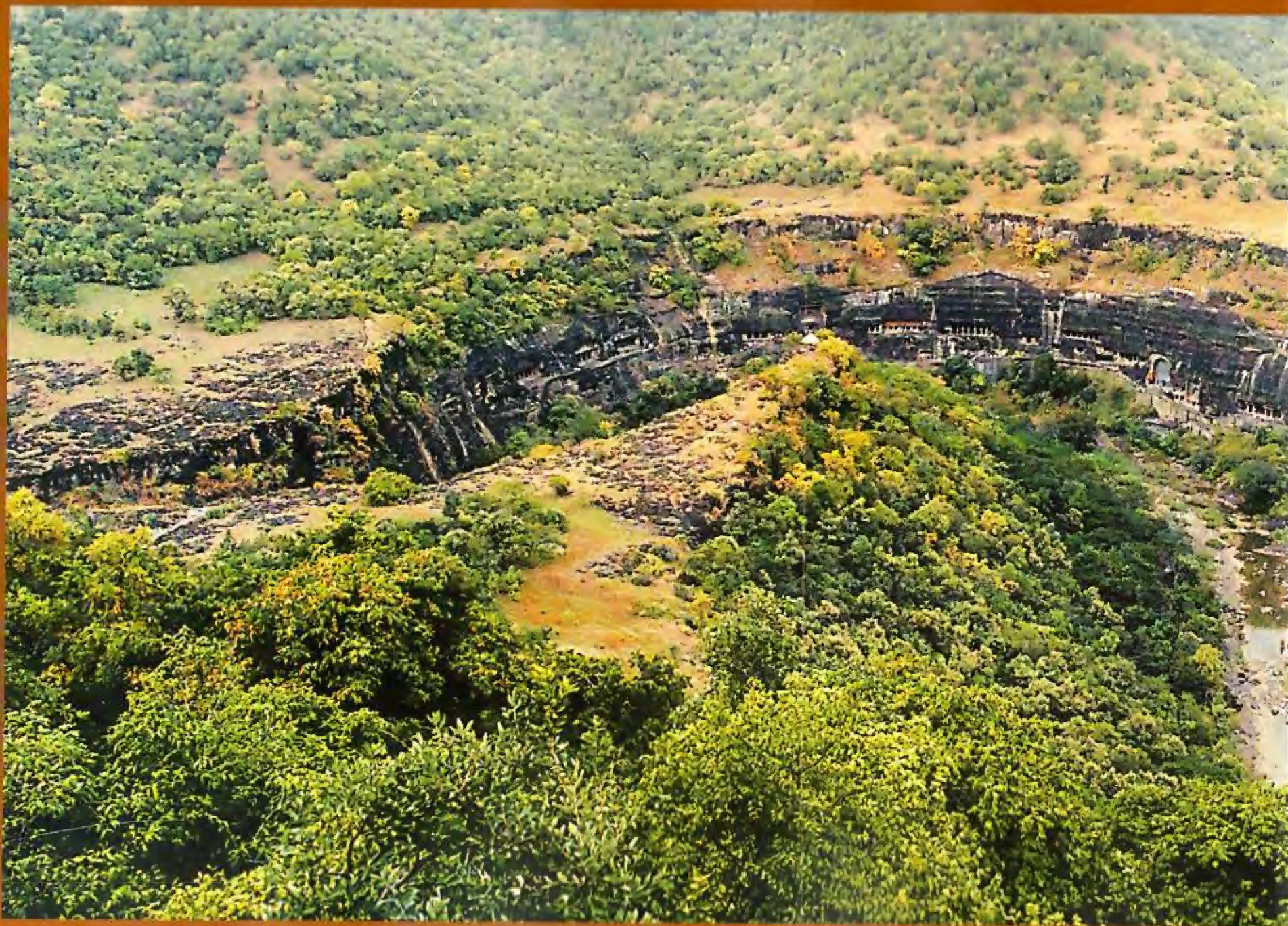
Verdant view of Sarnath




Lion Capital, Sarnath Museum

Glory Regained

Since most of the structures at Sarnath are of bricks which have decayed rapidly due to moisture and salinity, conservation efforts have been directed towards chemical treatment of the bricks and strengthening of existing structures. The structural repairs include dismantling of the old decayed roofs of museum and pillars and resetting the same with RCC, raising boundary walls of the site museum and refixing of grills, pointing and chemical coating of the Dhamekh Stupa, protection of the ancient walls of monasteries, dismantling of the damaged portion of the Dharmarajika Stupa and resetting of the same.





The grand arc of the Ajanta caves

Ajanta Caves

Maharashtra

The Buddhist impulse for both meditation and renunciation inspired scooping of the caves at Ajanta which were used as retreats during rainy season by the monks. The *chaityas* and *viharas* were scooped out of the rock formations that lay in the village Fardapur in the district of Aurangabad in Maharashtra. When viewed from a higher terrain, the caves form a semi-circle. Out of thirty caves, there are five *chaityas* having colonnades with a central nave, an apse and side aisles. In the middle of the apse is the object of worship – usually a stupa. The remaining monasteries hewn out of live rock have an astylar hall that served as the congregation for prayers with numerous cells where the monks lived.



An exquisite Ajanta painting

The earliest *chaitya-grihas* dating from second century BC are simple, and without any ornamentation. This represented the austere spirit of early Buddhism. With the passage of time and royal patronage the *viharas* and *chaitya-grihas* became repositories of the artistic traditions of the fifth and sixth century AD when the imperial Guptas ruled North and Central India, setting pace for evolution of rock-cut architecture at Ajanta. The later caves had verandahs, halls, shrine-chambers containing massive images of Lord Buddha. The sculptured figures as well as architectural members especially in Cave 19 have graceful proportions. The classical style of architecture that flourished under the imperial Guptas found their way to these remote monasteries as well.



Another example of esoteric Ajanta painting



Way to Ajanta caves - before construction of a bridge



Way to Ajanta caves - after construction of a bridge and cleaned surrounding

Apart from the unique rock-cut caves Ajanta is famed for its mural paintings. Their accidental and fortuitous discovery revealed the most exquisite paintings executed by the contemporary artisans. Here again the evolution of painting dating from second century BC to the classical Gupta period can be seen. One marvels at the richness of colours and the enduring quality of the material used. The dominating colours are red, yellow, ochre, black and blue. The tempera method was to spread upon the surface of the rock a layer of clay, cow dung, rice husk, over which a coat of white lime plaster was given. The technique was adopted by other nations; murals similar to Ajanta and Ellora have been discovered in Central Asia at Khofan along with Silk Route. Glue was the binding medium, for the colours.

The theme of paintings on the walls is entirely Buddhist, depicting the life of Lord Buddha and his earlier incarnations as well the lives of Bodhisattvas. Despite religious theme, the figures - either the exquisite painting of Bodhisattva Padmapani in Cave 1 or the scenes from *Mahajanaka Jataka* or the depiction of Apsaras and the Swans in Cave 17 - are a vivid portrait of contemporary life.

Nestled among the hills the caves of Ajanta have influenced the art and architecture of the rock-cut temples of Pattadakal in Karnataka as well as other countries. Buddhist monks from Sri Lanka took with them the themes, the colours and the inspiration of the Ajanta paintings and reproduced them in the exquisite figures that may be seen in the caves of Sigiriya. The classical proportions of the façades of the caves influenced the rock-cut caves at Petra in Jordan where caravans from India and Central Asia halted to trade and exchange ideas. The paintings of Ajanta have also influenced the contemporaneous art of Central Asia as may be seen in the caves of Dunhuang and Buddhism became a cradle of art and architecture apart from propagating simple and contented way of life.



Padmapani, Ajanta caves



Another example of exotic Ajanta painting



Way to Ajanta caves - before construction of a bridge



Way to Ajanta caves - after construction of a bridge and cleaned surroundings



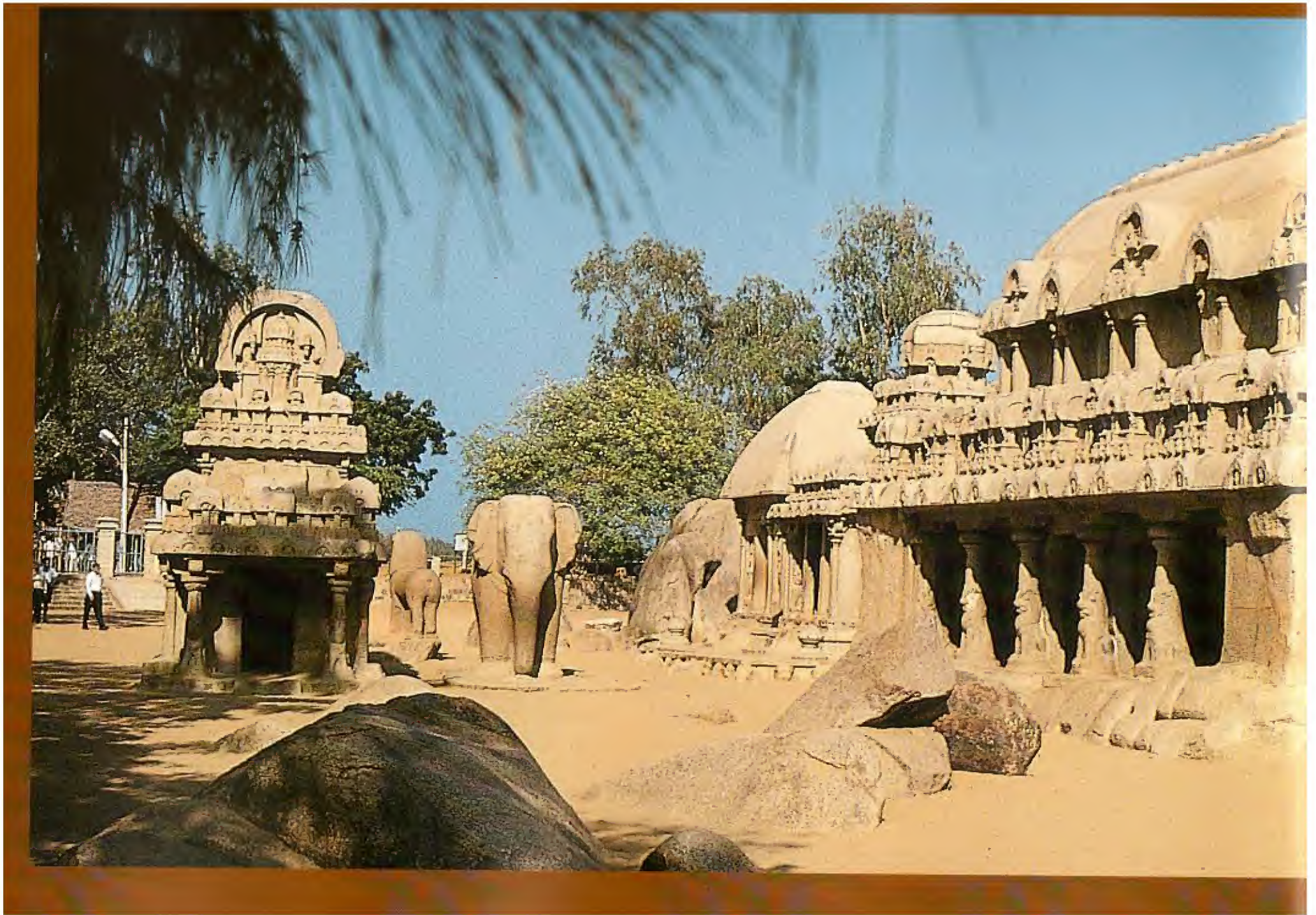
Pathway to Ajanta caves - before conservation



Pathway to Ajanta caves - after conservation

Glory Regained

Conservation work in the Ajanta caves had begun in the earnest in 1953 when major repairs works were undertaken. For the next forty years or so, a systematic programme of conservation of the caves was planned such as stopping water from flowing over the façade of the caves by the provision of rock-cut drain and drip-courses, repairs of roofs, strengthening of rock surface with cement concrete to stop decay, repairs to decayed portions, cracks and fissures, removal of debris from top of caves, laying of pathways between the caves and repairs of sculptures. In the year 1992-93, measures were taken to improve the exterior of the caves with pipe railings, steps for climbing and strengthening of retaining walls. Particular care was taken of Caves 16 and 17 and special lights were installed in the caves that would not affect the pigments of the paintings. More conservation works were also undertaken under the Ajanta-Ellora Development Project, Phase-I. Foot-bridges were constructed, stone pavements were laid and fibre optic lighting was introduced for better and safer illumination.



Pancha ratha group, Mahabalipuram

Monuments of Mahabalipuram

Tamilnadu

The foundations of Tamil culture were laid by the three great dynasties of the Sangam Age who ruled Tamil country from c. 3rd century BC to c. 3rd century AD. It was an age of great literature, sculpture, temple building and maritime commerce that carried many aspects of Hindu culture to Myanmar, Thailand, Cambodia, Laos and Vietnam. After an interregnum of disruptive invasions, came the Pallava dynasty in the sixth century AD when Sivavarma and Simhavishnuvarma consolidated their reign. For four centuries, three South Indian dynasties – Pallavas, Chalukyas, Pandyas - enriched every aspect of civilization. Though Kanchipuram was the Pallava capital it was Mahabalipuram which was their main port and the centre of maritime and cultural exchange. It was in the reign of Narasimhavarman-I, nicknamed Mamalla (wrestler) that Mahabalipuram or Mamallapuram rose to the height of its eminence between AD 630 and 668. Four kings of the Pallava dynasty - Mahendrayarman-I, Narasimhavarman-I Mamalla, Parameshvaravarman-I and Narasimhavarman-II - were great rulers and their reigns were noted for achievements in architecture painting, literature and music. Though they were Saivites, Buddhism and Jainism also found royal patronage. Pallava glory came to an end when they were overthrown by the Cholas of Thanjavur.



Visitors at the Shore temple, Mahabalipuram

The monuments at Mahabalipuram comprise four groups – the five monolithic structures known as *rathas*, the sculptures on the rock faces, rock-cut caves and the celebrated Shore temple.

The free standing monolithic structure called *rathas*, resembling chariots, have a stark simplicity with *dvarapalas* or guardians on either side or simple carving on the mini-spires. The Bhima Ratha is supported by pillars with curvilinear roofs. While the Dharmaraja Ratha is also supported by pillars, it has more elaborate carvings. The Arjuna Ratha is carved with robust male and graceful female figures. The Nakula-Sahadeva Ratha is supported by two lion pillars with carvings on the roof. The Ganesa Ratha has a sculptured curvilinear roof supported by carvings.

The bas-relief known as Arjuna's Penance is excavated out of a rock face and is carved intricately with numerous figures depicting scenes from Hindu mythology and the epics. The figures are supple and mobile. We will see variations of this bas-relief at Angkor Wat. It is very likely that the merchants and artists of the Chola era carried these traditions across the seas. The Pancha Pandava Mandapa is a temple hewn out of a huge cave. The carved façade of the roof is embellished by designs and is supported by lion-columns.

The majestic structural features in the Olakkannisvara Shore temple as well as the sculptures in the various mandapams or pavilions and portrayal of mythological episodes and the graceful figures in various places mark Mahabalipuram as a repertoire of Indian art and architecture.

The crowning glory of Mahabalipuram is the celebrated Shore temple. The vimana with its four *talas* and pointed finial has a simple majesty. They have the austere grace of the carvings of the Pallava era while the walls of the temple are also carved but less profusely. The vimana is narrow and long. The central shrine stands to the east. There is a *pradakshina-patha* between the temple and the *prakara* walls for circumambulation. The *garbagriha* contains a Siva-*linga*. The *deepa-stambha* is set opposite the *gopuram*. Before the groyne wall was built, the temple stood on the shore with the sea spraying its stonewalls. The nascent Shore temple is an exquisite edifice of the Pallava era.



Ornamental engravings on the wall, Mahabalipuram



Arjuna's penance, Mahabalipuram



Signature tower on the rocks, Mahabalipuram

Glory Regained

Conservation measures have been taken at the famous Shore temple by providing fencing at the boundaries in which PVC coated chain links have been used. RCC structures have been tightened, pathways have been provided inside the Shore temple to reduce the effect of salinity, chemical treatment with paper pulp has been effected to maintain the stone members of the temple. Thick casuarina trees have been planted on the side of the Shore temples to act as wind breakers. Fencing around the five rathas have been taken up. The architectural and plinth members of the five rathas have been exposed by removing silt and sand. Water has been drained from these members and cracks on the rock surface of the Bhima ratha were pointed to prevent percolation of rainwater. The group of monuments on the hillock at Mahabalipuram have been provided fencing by using CR masonry dwarf wall, damaged pathways have been strengthened, structural conservation have been taken up in the Krishna Mandapa by removing and dismantling decayed parts and reassembling them again. The rock surface of the Pandava Mandapa and Arjuna's penance have been treated to prevent seepage of water.



Southern side of Nalanda temple no. 12

Monuments of Nalanda

Bihar

Nalanda was an unique place. Nowhere in the world was there a university town that was also a monastery, a repository of art, sculpture, and the changing vagaries of theology. The oldest university towns of the West – Padua, Bologna, Oxford, Heidelberg, Salamanca - were established by monastic orders but soon became secular in spirit and sometimes the breeding ground of heresy.

Situated near the ancient town of Rajagriha, in Bihar, the village of Nalanda appears in history from the time of the Buddha in the sixth century BC. Tradition attests that Mahavira spent many years here while the site is mentioned in Pali scriptures. Tibetan texts refer to the place called Nala that was the birthplace of Sariputra, one of the chief disciples of Lord Buddha. Emperor Asoka is said to have given donation to the existing Buddhist shrine that later developed into a great centre of learning and religious activity. Its is curious to note that the Chinese traveller Fa Hien does not mention this university centre though Hluen Tsang has left vivid descriptions of the place. Patronage of the imperial Guptas and post Gupta rulers, especially that of Emperor Harsha of Kanauj assisted its growth. His endowment of several villages provided the monasteries with rice, milk etc. After the decline of the Guptas, rulers of the Pala dynasty extended their patronage to Nalanda.



Nalanda temple no.3.(as seen from north-east corner)

Our information of Nalanda at its glory is provided by Hiuen Tsang who resided here for many years. Students from India and Buddhist lands came to learn Mahayana and Hinayana philosophy, Brahmanical texts, logic, grammar and medicine. By the time the Chinese pilgrim I-Tsing arrived at Nalanda in the seventh century AD it was a famous centre of learning throughout the Buddhist world.

There are eleven monastery sites, each closely resembling the other in structure and design. The buildings have small cells on four sides with entrances from concrete paved verandahs that are supported by pillars. The walls were covered by thick plaster. Every monastery had a shrine-chamber in the middle of the row of cells that faced the entrance.



Sculpture in temple no. 3, Nalanda

Many of the monasteries were built upon the ruins of an older one with more complex construction such as the addition of a porch and ante-chambers. The monasteries had open quadrangular courts which were later separated by a high wall. The buildings were two or three storeys' high with shallow staircases leading to the higher storeys. Sometimes the later structures were built from the debris of the earlier structures. The later monasteries contained secret chambers which were used for storing valuable objects. The courtyards contained large shrines. Numerous objects were found during the excavations such as copper plates inscribed with the name of rulers who were patrons of Nalanda such as emperor Samudra Gupta and King Dharmapala of the fourth and eighth century AD. Numerous stone statues of the Bodhisattva Avalokitesvara, Khasarpana, the favourite Padmapani, Vajrapani, the goddess Manjushree and the eighteen-armed goddess Prajnaparamita have been found. The monasteries used furnaces for casting metal objects such as bronze statues. Remains of these have been found during excavation.

There are also remnants of six temples made of bricks laid with mud mortar. The temple sites have pilasters. The pilasters are carved with figures of Hindu gods and goddesses as well as scenes from the life of Lord Buddha. It is interesting to note the co-existence of Buddhist and Hindu deities in the Buddhist pantheon. Along with stone and bronze statues of Buddhist deities there are those of Hindu gods and goddesses. Nalanda became a centre of the Tantra cult; deities of this sect are also found here. Many of these Tantrik deities are found in Nepal and Tibet. The earliest representations of Lord Buddha are depicted by an empty throne. But as Buddhism evolved from its original austere creed Buddha was depicted in various poses and seated on the lotus throne.



Sculptures in temple no. 3, Nalanda

It is not known when Nalanda ceased to exist as a thriving university and Buddhist centre of learning. Hiuen Tsang hints at the decadence of the monastic establishments even while he resided there. In the twelfth century the invading army of Bakhtiyar Khilji set fire to the buildings. The simple and stately university buildings, the vast and valuable collection of religious and philosophical texts collected over centuries were burnt with the same tragic consequences as the burning of the great library at Alexandria by the Romans. The monks and students gradually dispersed and Nalanda became an empty shell of burnt brick edifices.



A panoramic shot of Nalanda University



A general view of Nalanda University

Glory Regained

Successive excavations have exposed numerous structures such as brick temples and monasteries in various stages of disrepair. There are ruins of huge stucco images of Buddha and Bodhisattvas and murals. Antiquarian remains and whatever can be kept in museum have been housed there but conservation of these huge site poses many problems especially as the brick structures have been damaged by rainwater, underground capillary action of water and salinity. Nevertheless action has been taken in recent years to reset fallen walls, watertightening, underpinning, pointing, lime concreting, laying of concrete pathway to facilitate movement of visitors around the main edifices.



Ellora caves

Ellora Caves

Maharashtra

The builders of the Ellora caves chose the solid rock face for scooping caves because of its hardness. With a mere chisel and hammer, they hewed the trap starting from the top to the bottom through openings intended for windows and doors and left the stone meant for designing pillars and stupas. The usual form of the viharas was a central hall with cells, refectories and other chambers clustered around it. The monks' cells were small and austere with stone couches serving as beds. Rain-water was stored in stone cisterns. The plan of the caves with a central nave and rows of pillars forming aisles resemble a basilica.



Ornate details in Kailash temple fascinate the visitors



Gigantic view of Kailash temple, Ellora

Painting was a widely practiced art in India. There are numerous references in Sanskrit literature to paintings and portraits. Banabhatta's *Kadambari* describes paintings of the walls of the palace at Ujjain. The Chinese traveller Hiuen Tsang has described Buddhist monasteries full of paintings. There is a close connection with the murals of Ajanta and Sanskrit literature though the theme is predominantly Buddhist.

Ellora presents a view of the late classical era. Situated near the Yadava capital of Devagiri, some of the caves are Buddhist retreats and are contemporaneous with those of the late Ajanta caves. Starting from Cave I, we see a transition from Buddhism to Brahmanism in the Cave 15, called *Dasavatara*. In Cave 12, a storied chapel with courtyard the relics on the wall do not reflect the compassion and serenity of the Buddhist spirit but reflect the awe of the Sakti tradition. There are also the scenes of the marriage of Siva and Parvati in Caves 14, 16, 21 and 29.



Kailash temple, Ellora



Interior view of a Chaitya Hall, Ellora



Visvakarma cave, Ellora



Visvakarma cave, Ellora

Kailash is the most splendid cave in Ellora excavated out of a sloping rock formation. The solid monolith was sculpted into a temple dedicated to Lord Siva, and is surrounded by a cloister with sculptures on the back wall in high relief. The shrine is supported on the backs of elephants and griffins. There are scenes of the *Ramayana* and *Mahabharata* depicted on the walls. The awesome atmosphere of the caves evokes the grandeur of the personality of Lord Siva. The cave was commissioned by Krishna-I of the Rashtrakuta dynasty in the eighth century. The caves at Ellora portray the material wealth of the Kingdom as well as the synthesis of various philosophies and creeds of this multi-cultural society. Jainism found a congenial atmosphere at Ellora and thrived for a considerable time beginning from ninth century AD during which Caves 30 to 34 were executed with beautiful sculptures and mural paintings.



Drain passing through Ellora - before conservation



Drain passing through Ellora - after conservation



Ajanta - before cleaning and conservation

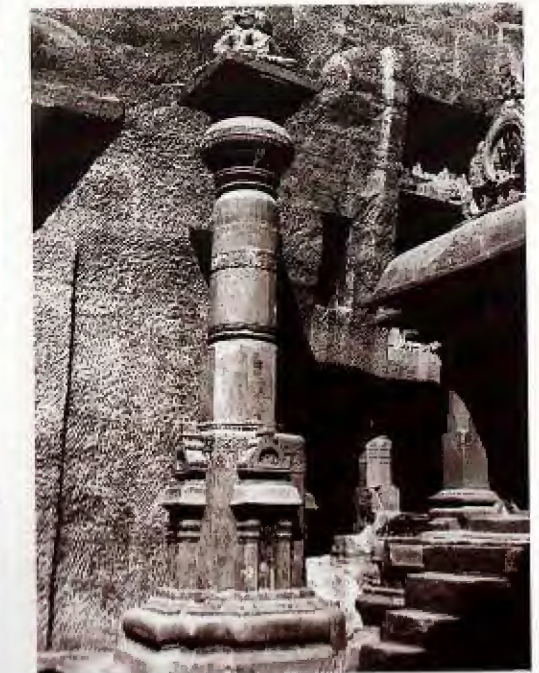


Ajanta - before cleaning and conservation



Ajanta - after cleaning and conservation

Ajanta - after cleaning and conservation



Glory Regained

As in Ajanta, conservation work has been going on for the last four decades to create proper drainage, restoration of missing columns and manasa stambha (Cave 32), conservation of sculptures especially on the sikhara of Kailash temple, laying of pathways from Cave 1 to 27 and providing of retaining walls and parapet walls. In both Ajanta and Ellora, the infestation of bats has been addressed by providing mesh to prevent their entry to the caves.





A trinity in the Elephanta caves

Elephanta Caves

Maharashtra

The Elephanta caves in the island capital of the Konkan Mauryas off the coast of Mumbai completes the trinity of the rock-cut caves that form part of the world heritage monuments of India. It was built during 6th-7th century AD. The name Elephanta is given to the island of Gharapuri after a huge statute of an Elephanta was found there by the Portuguese in 16th century. This complex comprises seven caves of which most impressive is the Cave I which has the rock-cut sculpture of Mahesha Murti. Here again we find similarities with the Ellora's sculptures in the depiction of events centred on Lord Siva, the Epics and the *Puranas*.

The trinity of the rock caves came into being when powerful dynasties provided an epoch of peace and prosperity enabling the flowering of the golden age of sculpture and painting in western India.



The triple-headed Sadasiva, Elephanta caves



Visitors evincing interest in a figurine, Elephanta caves





Glory Regained

Action has been taken to remove and reset the old steps from the foothills. The work of restoration and repairs to damaged pillars and providing façade with RCC in Cave I is in progress. Stone paved approach pathways to Cave 2 to Cave 5 have been provided and laying of approach pathway to Caves 6 & 7 is in progress. Since these Caves are situated in an island, there are problems of water scarcity. Action, therefore, has been taken to lay pipelines from an ancient water cistern at Cave 6 to the main Cave complex. Tourist facilities like a newly upgraded toilet block, solar lamps along the pathway and in the site museum, a rampart at Cave I exclusively for the physically challenged persons have been provided.



The monolithic rock-cut temples, Masrur

Masrur

Kangra, Himachal Pradesh

Masrur is located in Kangra and is famous for a group of monolithic rock-cut temples. It is not known why there was upsurge for building rock-cut temples in the fourth and fifth century AD which continued up to the eighth century. What began under Buddhist inspiration in Ajanta and Ellora continued in Mahabalipuram, Pattadakal in south India and in Masrur and Dhammar in north India. These richly carved and ornamented cave temples are the only ones of its kind in north India. The temples were dedicated originally to Lord Siva though images of other deities are also found. Whereas the rock-cut temples of south India are built in the Ratha style of Dravidian architecture, those at Masrur are in the Nagara or north Indian style. These rock-cut temples are hewn out of natural rock structures; the builders had to shape the edifices in accordance with the contours and shape of the rock. The rock temples have *sikharas* and impressive carved panels. The main shrines are situated in the centre.

These rock-cut temples are simple though large and do not have the elaborate splendour of the later rock-cut temples of Ellora and Pattadakal.

Glory Regained

Fallen and bulged portion of the wall aligning ancient water tank in front of the rock-cut temples has been completely restored with rubble masonry of dressed sandstone as per original pattern. Necessary support has been provided to the cracked and hanging portions of the rock-cut temples by constructing props of course rubble masonry with dressed sandstone beneath these portions. Weathered and cracked portions of the rock-cut temples have been treated and filled with lime and brick zira (tiny brick aggregates) in order to prevent the rock surface from further erosion, and checking rainwater to penetrate, and stop vegetation from growing in the cracks. The weaker patch of the rock mass at a place has been strengthened in part with small boulders set in lime surkhi mortar. A sculpture shed has been constructed for safely housing the loose sculptures and fragmented architectural members scattered in and around the temple area. MS railing has been fixed around the ancient water tank for safety purpose. Wire-mesh panel has been provided over the dwarf wall along the roadside. The general setting of the land around the temples has been beautified.



Ornamental details in group of temples, Pattadakal

Temples of Pattadakal

Karnataka

The Western Chalukyan dynasty founded by Pulakesi-I in the sixth century AD ruled the Deccan for nearly two centuries and ushered in a great epoch in Karnataka. The Chalukya kingdom reached its apex under Pulakesin-II, Vikramaditya-II and Kirtivarman-II. Like many South Indian dynasties the Chalukyas were avid patrons of art who supported artists and craftsmen and allowed innovation and experimentation in architecture. The Chalukyan period is noted for the transition from the rock-cut edifices to structural temples with elaborate designs. This transition is best reflected in three places – Aihole, Badami and Pattadakal – which are located on the banks of the Malaprabha river in northern Karnataka.

The Galaganatha, Sangameshvara, Mallikarjuna and Virupaksha temples represent the evolution of the Dravida Vimana style while the classic Virupaksha temple resembles the Kailashanatha temple at Kanchipuram. The temple of Kadasiddhesvara was built in the seventh century AD in classical northern style with *garbhagriha*, an astylar rectangular *mandapa* with *dvarapalas* flanking these. The Jumbulingesvara temple was also of this period. For the first time we see a *sukanasa* projecting from the *sikhara* and over the *mandapa*. The Kashi Visvesvara temple was built in the early Chalukyan style with flying figures and dwarfs. The Virupaksha temple was built by queen Loka Mahadevi and the Mallikarjuna temple was built by Rani Trilokya Mahadevi to celebrate the victory of their husband Vikramaditya-II over the Pallavas. As often happens the victor and vanquished settled down to exchange ideas of art and architecture.



A classic example of stone architecture in manicured lawns, Pattadakal





Multi-faceted flora, fauna and geometrical patterns embellish different parts of the temple, Pattadakal

We find many similarities of style of these temples with the ones in Kanchi which was the capital of the Pallavas. The early Chalukya period produced the sculptural art that combines richness of details with a graceful style. The well-proportioned sculptures in the central ceilings, the carved figures of gods and goddesses show the blending of vigour and delicacy that imparts a vibrancy to stone. There are narrative panels illustrating various episodes from the Epics, the *Bhagavata* and the *Panchatantra*. Scenes from mythology are carved in the pillars and pilasters while flora, fauna and geometrical patterns adorn various parts of the temple. Doorjambs with fine carvings, pillars and pilasters with carved capitals, lintels depicting animals, birds and architectural motifs show the versatility of the Chalukyan sculptures.

These traditions would pass on later to the Kalyani Chalukyas and the Hoysalas of Karnataka who adopted and took their artistic inspirations from the Chalukyas.



Five temples of Pattadakal marvel in architectural style

Glory Regained

Over the last few years conservation measures have been taken in the major monuments of Pattadakal such as the Papannatha temple, Chandrasekhara temple, Virupaksha temple, Kashi Visvesvara temple, Mallikarjuna temple, Jaina temple. These include watertightening measures, repairs of sunken floors, dismantling and reconstructing where stone members have been dislodged. Use of sandstone masonry for foundation, providing sandstone pavement, repairs of broken prakara wall, restoration of pillared halls, conservation of roofs by relaying roof slabs and protection of plinth to prevent water percolation.



General view of Sun temple, Martand

Sun Temple, Martand

Kashmir

The monuments of Kashmir are a mirror of its history that in turn has been determined by the geographical factors of this beautiful land. Though much of Kashmir lies in a valley 6000 feet high and is linked by snow-bound mountain ranges and passes that are negotiable only during summer months, it was a vital cultural centre of the sub-continent. Standing at the crossroads of many regions, Kashmir was exposed to numerous influences which resulted in a flowering of a syncretic culture.

The earliest influences came from the Greeks whose emissaries found their way from Takshila and Bactria to the Kashmir Valley. Thereafter came the Kushans and other tribes from Central Asia. While the rest of North India drew away from Buddhism during the Brahmanical revival it attained a fresh lease of life in Kashmir, first under the Kushan rulers such as Kanishka and then later in the classical ages under Lalitaditya and Avantivarman.



A portion of Sun temple, Martand

The golden age of Kashmir was ushered in by the great king Lalitaditya Muktapida (AD 725-753) of the Karkota Dynasty (AD 627-885) whose deeds the classical poet Kalhana's *Rajatarangini* (AD 1148-50) of Kashmir speaks eloquently. He brought Kashmir to a pinnacle of power and glory that has not been surpassed. The eighth century appears to have been an era of great kings both in India, Iraq, Spain and Germany. In India it was time of architectural innovation and creativity.

The new cultural era under Lalitaditya burst into a sudden flowering, which is represented by the magnificent edifices built by this great ruler in the eighth century. This king appears to have been a true cosmopolitan figure of the classical world that then stretched from Gandhara to Rome. He was a patron both of Buddhism and Hinduism but with a definite inclination for the Graeco-Roman world which under the onslaught of Gothic invasions from the North and the Saracens from the South, retreated to the safer haven of Asia Minor for a period of quiet revival.

The temple of Martand (Latitude 33° 44' 40", Longitude 75° 13' 20"E) is built in massive yet balanced proportions. The temple was constructed of huge blocks of limestones which had to be quarried, transported over hilly terrain, cut and dressed and then used for construction. These huge blocks of limestones were then fashioned into a temple that echoes Graeco-Roman architecture with pillared porticos, peristylar arches, columns and colonnades. The temple is built on a high raised platform that is accessed by a flight of steps and surrounded by a peristyle of seventy-nine cells which are crowned by a gable on the top of a trifoil arch and separated by columns. The central shrine rests on a high plinth.

The traditional Hindu plan of temples with an *ardhamandapa*, large *mandapa*, the *antarala* and finally the *garbhagriha* is observed. There are subsidiary shrines in the courtyard. The façade has a row of pilasters designed into oblong panels above which rests miniature shrines with triangular roofs. The particular feature of the Martand temple are the profusion of trefoil arches, the sculptures on lintels and friezes. The peristyle of the temple is the largest in Kashmir with large fluted pillars on the sides. The pyramidal roof was built of wood and were sloped like Gothic gables. This was dictated by the snowfall of the Kashmir valley as well as the abundance of timber.

Lalitaditya's contact with Central Asia and Gandhara played a determining role in the architecture of his temples. The Hellenic tradition that had fused with Indian traditions and flourished at Gandhara from Mauryan times, now percolated into Kashmir to produce a new magnificence.



Sculpture, Sun temple, Martand



Intricate details on Sun temple, Martand

Glory Regained

Some minor conservation works have been undertaken in this temple. Chain link fencing fitted with MS angle and MS flat over the retaining wall and dwarf wall in rubble stone masonry from the south and east side with combination mortar after earthwork excavation and laying of base concrete has been provided. A flight of steps to the main gate of the temple from west side in ashlar stone with combination mortar has been provided. The main ambience of the temple has been embellished with a beautiful garden laid with beds of seasonal flowers and a large apple orchard.



Laxman temple, Khajuraho



Early Medieval and Medieval Monuments

Temples of Khajuraho

Madhya Pradesh

At a time when European art in obedience to the dictates of the Church had moved away from the humanism of Graeco-Roman traditions and emphasized the spiritual aspects of existence, we find in Khajuraho a sculpture that is exuberantly sensual and an architecture that is rich and heavily ornamented. Many reasons have been advanced to explain the erotic art of Khajuraho. One is that there was always a vigorous sensual element in Indian art and literature. Creation and cosmic energy were seen as the union of the male and female principle. Despite the metaphysical underpinning of Hinduism there was also an acceptance of physical pleasures of life. For two millennia, north India had experienced the austerities of Buddhism and Jainism, the admonitions for renunciation embodied in the *Upanishads*, the severe and beautiful monotheism of Shankaracharya's *Advaitavada*. The resurgence of Hinduism in the tenth century led to buildings of temples both in north and south India. Around this time, north India had heard the distant drums of Ghazni and Ghauri. It is possible that the temples of Khajuraho were built in defiance of all these in a last burst of attachment for the material and the visible world and in celebration of earthly pleasures.



Sculptured panel on a temple, Khajuraho



Astonishing temple architecture during the Chandella reign, Khajuraho

It is fortunate that Khajuraho like Angkor Wat was lost to the dense jungles which preserved it from iconoclastic fury until "discovered" by British engineer, T.S.Burt in 1838.

Khajuraho was the capital of the Chandella dynasty who ruled central India around Bundelkhand from the ninth to the thirteenth century. They were known for their patronage of art, literature and architecture. The Chandella country was filled with forts, palaces and temples, culminating in the splendour of Khajuraho. The temples are built in the Nagara style whose main features were a square sanctum in a cruciform shape with transepts on either side. The temple was crowned by a curvilinear *sikhara* or spire.



Exquisite feat of creativity, Khajuraho



Khajuraho sculptures leave the visitors spellbound



Intricate carvings depicting amorous couples, Kandariya Mahadeva temple, Khajuraho



Visitors at the Laxman temple, Khajuraho

The most magnificent of all the temples is the Kandariya Mahadeva temple whose elaborately curved four *sikhara* flow from one to the other and seems to merge with the adjoining Jagadambi temple. The *sikhara* are intricately carved with figures depicting scenes from mythology. The same intricacy of carvings can be seen in the lintel of the Siva temple that has a common plinth with the other two temples mentioned above. The temples are erected on a high *jagati* or terrace that provides space for circumambulation of the temple for the devotee. The Lakshmana temple is even more intricately carved with balconied windows, exquisite *mahamandapa*. The massive Vishvanatha temple is almost identical to the Parsvanatha temple.

The sculptured figures for which Khajuraho is famed come in various sizes, forms and poses. There are the squat and solid *Dikpalas*, the exquisite *apsaras*, the voluptuous women and graceful men who are depicted in every day poses or in amorous encounters. This joy for earthly pleasures is depicted in the walls of the Adinatha, Jagadambi, Vishvanatha, Chitragupta, Kandariya Mahadeva temples.

In an age of classical discipline both in literature and sculpture, Khajuraho, like Konark, broke the norms and created images which have given both fame and notoriety to these temples. While the churches and cathedrals of France and Germany were being built to the greater glory of God the temples of Khajuraho were built in praise of man and his earthly sojourn.



Kandariya Mahadeva temple, Khajuraho

Glory Regained

Conservation measures have been taken up in Khajuraho systematically over the years. As a frequented tourist destination and as an important world heritage site the temples of Khajuraho received attention. In recent years watertightening measures and grouting of the western group of monuments of Khajuraho has been undertaken. Both the interiors and exteriors have been conserved and chemically treated. Loose pinnacles and other parts of monuments have been repaired.



Sun temple, Konark

Sun Temple, Konark

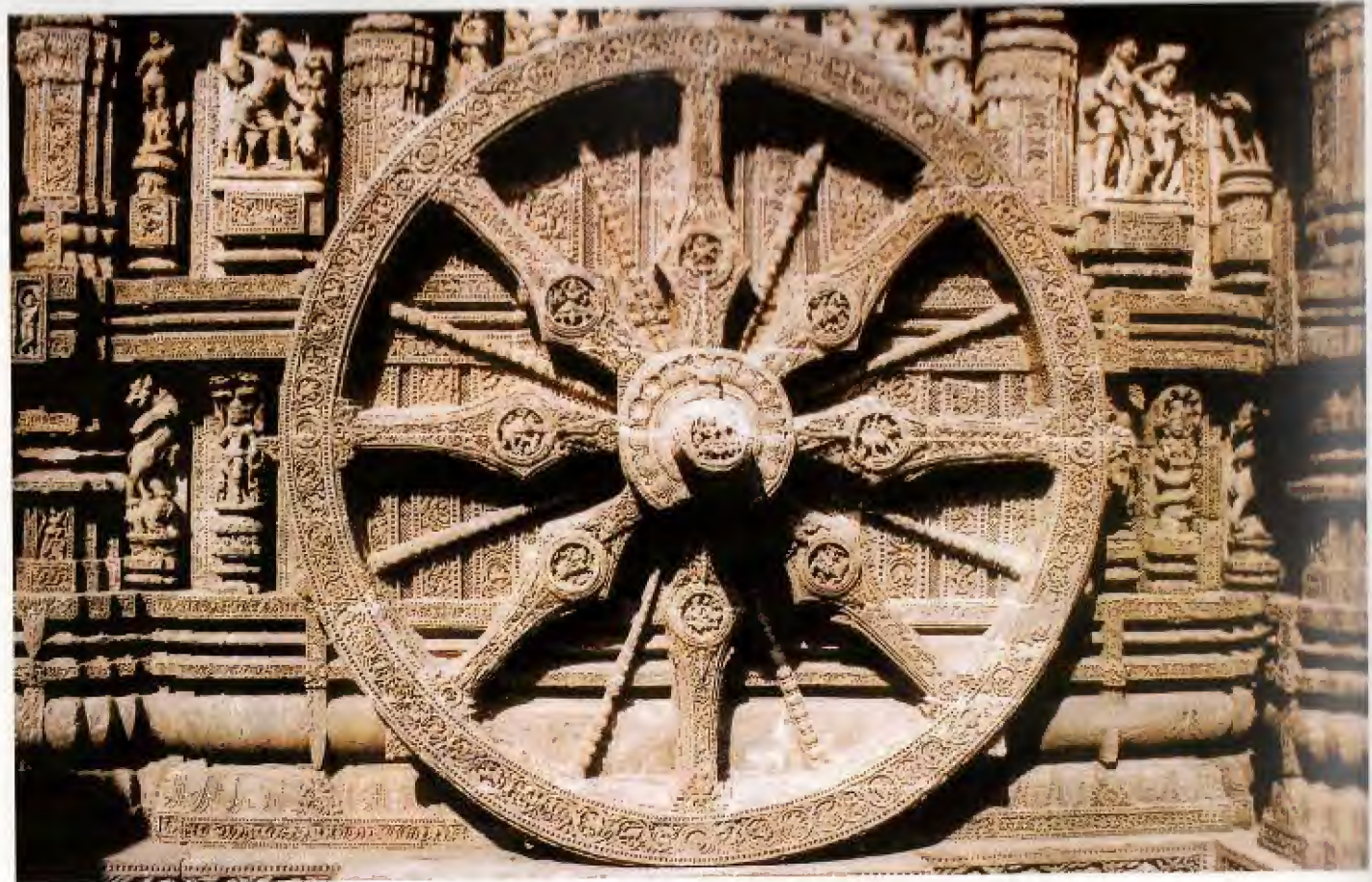
Orissa

Every civilization has raised temples to the Sun God who is regarded as the sustainer of life. The sun therefore was an object of veneration in ancient Egypt. Ramesis-II built a temple to the Egyptian Sun-God, Amun-Re. In fact there are many similarities between the sculptures that line the route from Luxor to Karnak which like Konark was the seat of a temple complex. The ancient Greeks and Romans built temples to the Sun-God Apollo.

The Sun temple of Konark stands on the shores of Bay of Bengal. According to the palm leaf chronicles of Jagannatha temple at Puri, an earlier temple was built here. According to the *Puranas*, Samba the son of Lord Krishna seeking cure from leprosy erected a temple in honour of the Sun-God Surya who cures all skin diseases. Most likely the Kalinga King Narasimha Deva built this massive temple in thanksgiving for curing a disease. The site was located with the intention of greeting Surya-Deva as he rose from the sea in the eastern sky.



Stone image, Konark



Intricately carved wheel and other sculptures, Konark

Temple building in Orissa began in the seventh century AD and reached its climax with the temple in Konark. Though there are Sun temples in India such as Modhera none can compare to the one in Konark in originality, conception and magnificence. The temple is built in the shape of a vast chariot drawn by seven caparisoned and celestial horses of the Sun-God. The chariot has twenty-four wheels each elaborately carved which also serves as the platform for the *garbha-griha* and *mandapa*. The *garbha-griha* has a curvilinear tower. The outer walls or *kanika paga* are followed by *anuratha paga* and the central portion is the *raha paga*. The entire cupola is called *mastaka* comprising *kalasa*, *khapuri*, *amla*, *ghantabeki*. The terrace steps or *putalas* descent to the verandah. Three types of stones were used for construction; chlorite for door frames, laterite for platforms, staircases and foundations, while the remaining structures were built with khondalite. The poor quality of the last named variety has caused extensive erosion. But since there were no other stones available locally the builders were forced to use khondalite.

The grandeur of the temple at Konark is due to two factors – the size and design of the temple edifice as well as the sculptures, with ornamental walls and cornices. The sculptured figures are numerous and in great variety; gods and goddesses, musicians and dancers, animals and birds, floral and geometrical motifs. There are also erotic scenes of lovers and courtesans. The contemporary scene of fourteenth century Orissa is captured in depiction of royal court, hunts, military expedition and the daily routine of royalty. There are scenes of caravans and traders, of people going on pilgrimages, of mendicants and soldiers. As in Khajuraho the abundance of erotic sculpture is a reflection of the contemporary mood that was secure and hedonistic. The platform of the *bhoga-mandapa* is carved in elaborate detail and mirrors an age that was free and pleasure loving.

The figure which dominates the temple is the Sun-God who is depicted as a slender and commanding figure attending by graceful minions. There are figures of Agni the Fire-God, who is serene and plump and not what one would expect of a fiery deity. Yama looks well fed and not at all sinister. There is a figure of a veena player wearing a diaphanous dress and numerous ornaments. One woman figure plays the dhol and the other is beating cymbals. There are heads of *Sardula* the mythical lion and *Makara* the gargoyle and mythical animals such as the *vyalas* and *gajavyalas* in prancing poses. In one bracket we see for the first time the sculptured figure of Lord Jagannatha while the King and Queen look on.

The Sun temple of Konark brought Hindu architecture to a pinnacle of richness that emanated a sense of energy and power which has not been equalled.



Sun god, Konark



Images on the wall of Sun temple, Konark



At the gate of Sun temple, Konark.



Nestling amidst green environs - Sun temple, Konark



Conservation work in progress at Sun temple, Konark

Glory Regained

Restoration work of the dilapidated adhisthana of the main temple from north has been attended recently. The original architectural members are collected from the debris lying outside the prakara of the temple complex, identified properly and re-fixed at their original position. Missing parts have been provided with good quality khondalite stones without carving as per the archaeological ethics and norms. Khondalite stone pavement matching with the monument has also been laid around the Natamandapa to prevent seepage of rain water into the foundation and for smooth movement of the tourists. Brass railings have also been provided around the Natamandapa to protect the monument from human vandalism.

Approach road to the monument from east has been widened by way of providing dressed khondalite stones matching with the monument for smooth movement of the tourists.





Rani-Ki-Vav, Patan

Rani-Ki-Vav

Patan, Gujarat

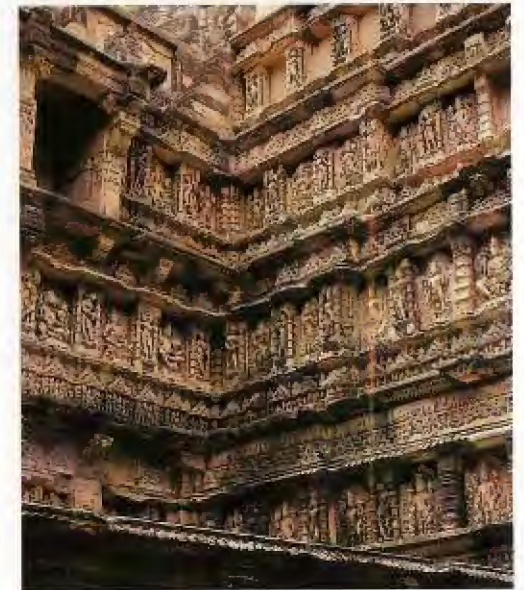
Rani-Ki-Vav is one of the beautiful structures located in Patan district of Gujarat on the left bank of the Sarasvati river. It was constructed in the eleventh century by Rani Udayamati in memory of her husband Raja Bhimadeva-I. The minute carving of this stepped well has made it famous; it is elaborate and exquisite in the totality of effect. The structure is built of brown bricks faced with hewn stones. The structure merges with the arid brown landscape and yet it is an oasis of relief because it provides water to this parched terrain. Not only was this an exquisitely carved ornamental structure but an utilitarian one as well.



Intricately carved and a utilitarian step-well, Ranigumbh-Vav, Patan



Intriguing carvings on the wall, Rani-Ki-Vav, Patan



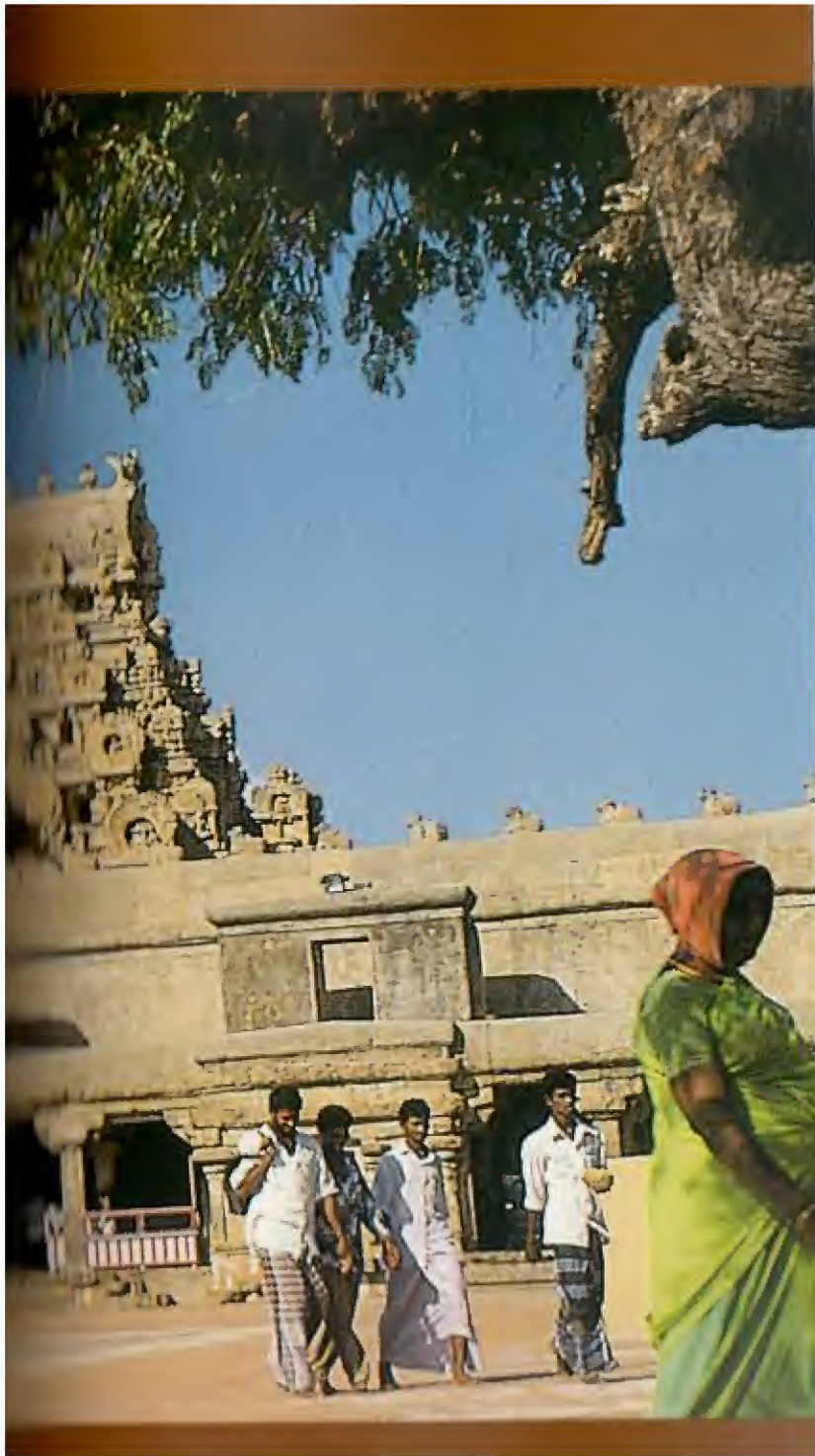
A multitude of carved figures, Rani-Ki-Vav, Patan

Glory Regained

The ASI has executed structural repairs after it was brought to light during excavations. Pathways of Dholpur stone have been paved over concrete bedding and brick layers with edges. A picturesque garden has been laid out by the Horticultural Branch of the ASI while the work of chemical conservation has been going on whenever required.

Brihadisvara temple, Thanjavur





Chola Temples

Brihadisvara of Thanjavur, Brihadisvara of Gangaikondacholisvaram, Airavatesvara of Darasuram - Tamilnadu

The town of Thanjavur now a district headquarters in Tamilnadu stands on the eastern bank of the river Vadavar, a tributary of the life-giving Kaveri that flows through verdant rice fields. It may have been the richness of the soil and the presence of the river which drew successive settlements to the granary of the South. The bounty of the land freed people from routine rigours and gave them the time and effort for the creation of an enduring civilization. Even before the Cholas made Thanjavur their capital it had been the centre of religious activity in Pallava times. In eras when mankind derived his certitude and consolation from the worship of the Supreme Being, temples, churches and mosques formed the kernel of civil life and were the repository of creative energies.

Within a century from the establishment of the Chola dynasty by Vijayalaya, Rajaraja Chola had brought the kingdom to an acme of power and glory; he crushed the Rashtrakutas and Pandyas, sent naval expeditions to the Far East and conceived of a great temple of Brihadisvara to Lord Siva and made the Chola realm the greatest kingdom in south India. It is a frequent paradox of history that great conquerors after winning major battles and establishing strong states strive to leave behind memorials of their rule to serve as a permanent chronicle of their persons and deeds. This may be seen in the career of Emperor Asoka; Pope Giuliano Rovere who after laying central Italy commissioned Michelangelo to build the new St. Peter's Basilica; Peter the Great, the ruthless modernizer of Russia built the beautiful St. Petersburg; Phillip-II of Spain constructed the formidable Escorial. While historians know of Rajaraja Chola's military triumph and his able administration ordinary people remember him as the builder of Brihadisvara temple which has been described by the art historian Percy Brown as "the largest, highest and most ambitious production of its kind ... a landmark in the evolution of building art in South India".

Airavatesvara temple, Darasivaram



Standing before the Brihadisvara temple we are struck by its massive structure as by its simplicity of design. The vimana that Percy Brown calls "a touchstone of Indian architecture as a whole" has balanced and graceful proportion while its high plinth and pyramidal tower is crowned by a stone *sikhara* weighing 80 tons. Two Nandis i.e. bulls are placed at four corners. The *sikhara* or spire is imposing and crowned by finial of copper. The central edifice stands at the centre of a large courtyard and is enclosed by an inner prakara wall with a gopuram in the east and three toranas or gateways on the other three sides. The cloistered *prakara* walls comprise small shrines dedicated to Ashtadikpalas. Sculptured panels on outer walls and balustrades depict scenes from the *Puranas* and Epics where Lord Siva as Tripurantaka is represented by Rajaraja Chola. The *garbha-griha* is reached through a series of *mandapas*. The inner and outer circumambulatory walls around the sanctum contain fresco murals that depict legendary scenes with contemporary ones.

The Brihadisvara temple is a chronicle in stone commemorating the reign of a king who was a great warrior, a great administrator and a patron of art. It is incredible that this massive and elaborately ornamented temple was completed within six years. The Brihadisvara temple provided inspiration for future designs in construction. The massive temple of Angkor Wat bears striking resemblance to the Chola temple at Thanjavur. Chola rulers sent emissaries beyond the eastern seas to spread Hindu culture.

Like sons of great men, Rajendra Chola wanted to move away from the shadow of his father and sought to establish a separate identity. So he built a new capital at Gangaikondacholisvaram where he erected a new temple also named Brihadisvara. Rajendra Chola annexed new territories and his army went to the shores of the Ganga in eastern India. Hence the name Gangaikondacholisvaram or Ganga coming to the Chola city. Rajendra Chola established colonies in Kadaram in the Malay Peninsula as well as in Cambodia where Sanskrit, Hindu traditions and legends, art and architecture were adopted by the Khmer aristocracy.

The second Brihadisvara temple at Gangaikondacholisvaram is a smaller replica of the one at Thanjavur. The grandeur of Thanjavur is replaced here by greater delicacy and intricacy in the ornate vimana. The sculptured figures within the temple are imbued with warmth and mobility, for instance the figure of the Chandesanugraha murti i.e. Lord Siva with Parvati, of Nataraja, Kartikeya and the burning of Manmatha. It is as if moving away from the magnificence of his father Rajendra Chola sought to stamp his work with a more subdued beauty.



'Nataraja' on the exterior wall of the Brihadisvara temple, Gangaikondacholapuram

The Airavatesvara temple of Darasuram echoes the essential features of the Brihadisvara of Thanjavur. The *gopura* looms large while the prakara walls encircling the temple is carved with bulls. The *mandapa* stands in the foreground supported by carved pillars that depict scenes from the life of Lord Siva and of elephants and geese. The capitals are topped by lotus. There are lengthy friezes engraved with figures of dancing *apsaras* and musicians. Balustrades with *makara* designs flank the staircase on both sides. The main *mandapa* opens to *ardhamandapas* which in turn leads to the central shrine. This is guarded by fierce *dvarapalas* on either side. Inside the *mandapas* are exquisite sculptured figures of Lord Siva, Parvati, their sons, their battles and other characters linked to the Saivite traditions. There are figures of Yalis, dancing women and dwarfs. The outer walls are sculptured with mythological figures. The *natya mandapa* has a cloistered hall with sculptures.

The Chola temples brought south Indian architecture to a glory and grandeur that has not been surpassed and which was the inspiration for temples beyond the frontiers of India.



The Brihadisvara temple complex, Thanjavur

Glory Regained

Conservation measures have been taken in the Brihadisvara temple of Thanjavur by relaying of brick flooring, dismantling and removing existing damaged and undulating stone floors near the main entrance. The broken stone beam in the Nandi Mandapa has been mended, proper drainage for abhisheka water has been provided and the floors of the Raja Gopuram have been relaid. The plinth moulding and watertightening of the Keralanthakan gopuram have been undertaken.

Watertightening of the vimana of the main shrine of the Brihadisvara temple at Gangaikondacholisvaram has been effected. The stucco figures have been strengthened by pointing the joints and the surface has been cleaned with mild chemicals. A false ceiling of the first floor of the vimana has been provided after replacing the damaged wooden beam.

The mahadwara entrance at Airavatesvara temple has been reconstructed after mending the damaged beams by erection of stone ceiling slabs in the inner portion and watertightening the roof. The corridor along the mandapa in the southwest corner has been strengthened after replacing crack stone beams, stone ceiling slabs. New stone flooring has been made in damaged portions of the corridor. The out of plumb tirumadil or compound walls has been strengthened. Damaged ceiling slabs, stone beams and pillar capitals have been replaced and watertightening measures have been undertaken.

Alchi monastery, Ladakh





Alchi Monastery

Ladakh

The cosmopolitan character of Buddhism may be seen in the diverse types of buildings which it inspired from Hellenic style sculptures and monasteries of Gandhara and Kashmir to the very different edifices of Ladakh.

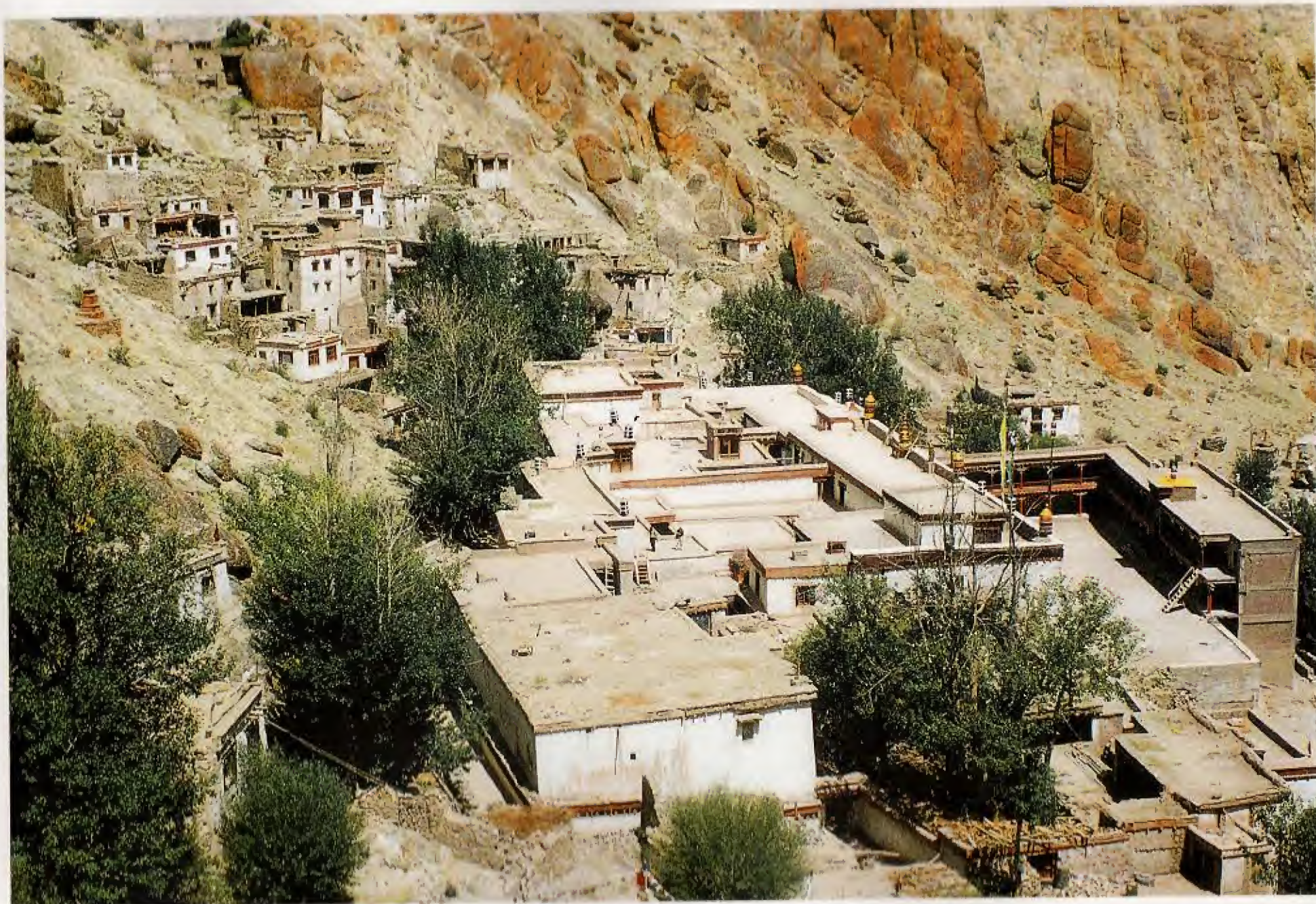
The Gomphas or monasteries of Ladakh are unique and combine the influences of both India as well as Tibet since Ladakh was and is on the crossroads of these two civilizations. The high mountainous terrain of Ladakh influenced the style of the Gomphas with their high solid walls and their steep sloping roofs. The walls rise from sheer cliffs or from the ground as a solid rectangular structure topped by flat roofs dotted with towers known as *chortens*. The severity of winters compelled the building of these walls. The ornamentation therefore had to be in the interior of the monasteries that brightened the interiors. The Gomphas are famous for their paintings. Local limestone was used along with intricate timber work. The Gomphas had courtyards where religious festivities were held by the monks and the local populace.



Main chorten - after conservation

The monastery of Alchi stands west of the capital of Leh on the left bank of Indus river on a flat and fertile alluvial terraces. The great Ladakhi scholar Rin-chen-bzanpo of the eleventh century had this monastery and shrine built. As in the other Gomphas of Ladakh the monastery of Alchi follows the architectural style set by Tibetan Buddhism.

The monastery has numerous shrines of which five merit particular mention. There is the Lhakhang Soma which is a small square chamber opening to the south and with a small chorten in the centre. The four walls are painted with pictures representing the life of Lord Buddha. The Sumtsek is a three-storied temple having three large conclaves in which there are magnificent statues of Maitreya, Avaloketisvara and Manjushree. Here again the walls and ceilings are painted with scenes from the life of Buddha as well as Jataka tales. The Dukhang or assembly hall is located on the right side of the Sumtsek where the monks congregate for prayers and other rituals. The Dukhang of Alchi resembles the monastery of Tabo with its outer court encircled by pillared arcades. On the right side of the Dukhang are two



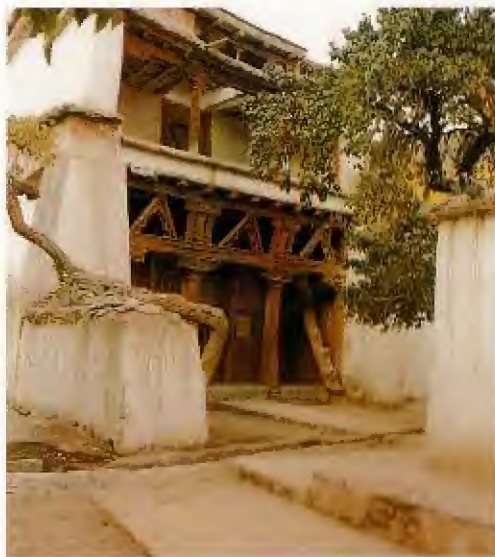
Alchi monastery, Ladakh



Sumtsek - after conservation



Alchi gompa - after conservation



Alchi gompa - before conservation

temples - the Lotsava Lhakhang and the Manjushree Lhakhang. The main shrine has a golden statue of Lord Buddha, the Bodhisattva Avalokitesvara and the famous Buddhist scholar Rin-chen-Bzänpo. As in other temples the walls have paintings of Lord Buddha and his disciples.

The Gomphas of Ladakh are unique and are not to be found anywhere else except the high mountains of Tibet from where the inspiration of both architecture and religion drew its sustenance.



Lakhang soma - after conservation



Lakhang soma - before conservation



Dukhang - before conservation

Glory Regained

Chain link fencing over dwarf rubble stone wall towards the south-east and north-west has been completed with the use of mud concrete and mud plaster. The watertightening to the roof terrace of Dukhang has been completed. The stone pathway over the base concrete on the eastern and northern side of the Parikarma path has been undertaken. Measures have been taken to protect the shrine and the murals of the Dukhang by providing wooden railing around the sacred area. Facilities for tourists have also been provided.



Part of Sahar-Ki-Masjid, Champaner



Champaner-Pavagadh

Gujarat

Champaner-Pavagadh is a medieval city established by the Khichi Chauhan family in around 1300 AD who built a hill fortress. This small kingdom remained under the rule until 1484 when it was conquered by Mahmud Begada, the Sultan of Gujarat. The Muslim rulers changed their settlement to the foot of the hill while the old Hindu capital remained abandoned with water channels, tanks and a medieval citadel. What remains of the citadel are barracks for the soldiers, arsenals, gates, fortified walls, pavilions, wells, water storage facilities, bridges, roads and residential buildings reflecting the changing rulers. There are both temples and mosques of which the Jama Masjid and the Nagina Masjid are built in the medieval Gujarat style.

Champaner shares similarities with other medieval citadel towns such as Vijayanagara and Fatehpur Sikri. The landscape is a typical deccan scene with rugged hills, the arid and barren landscape which produces a sparse style of architecture that is more utilitarian than aesthetic. The Pavagadh hill itself contains old rock formation that suggests that it was in use from pre-historic times.



Cenotaph of Nagina Masjid, Champaner



Spiral for water in inner garden, Champaner



Remains found in Champaner

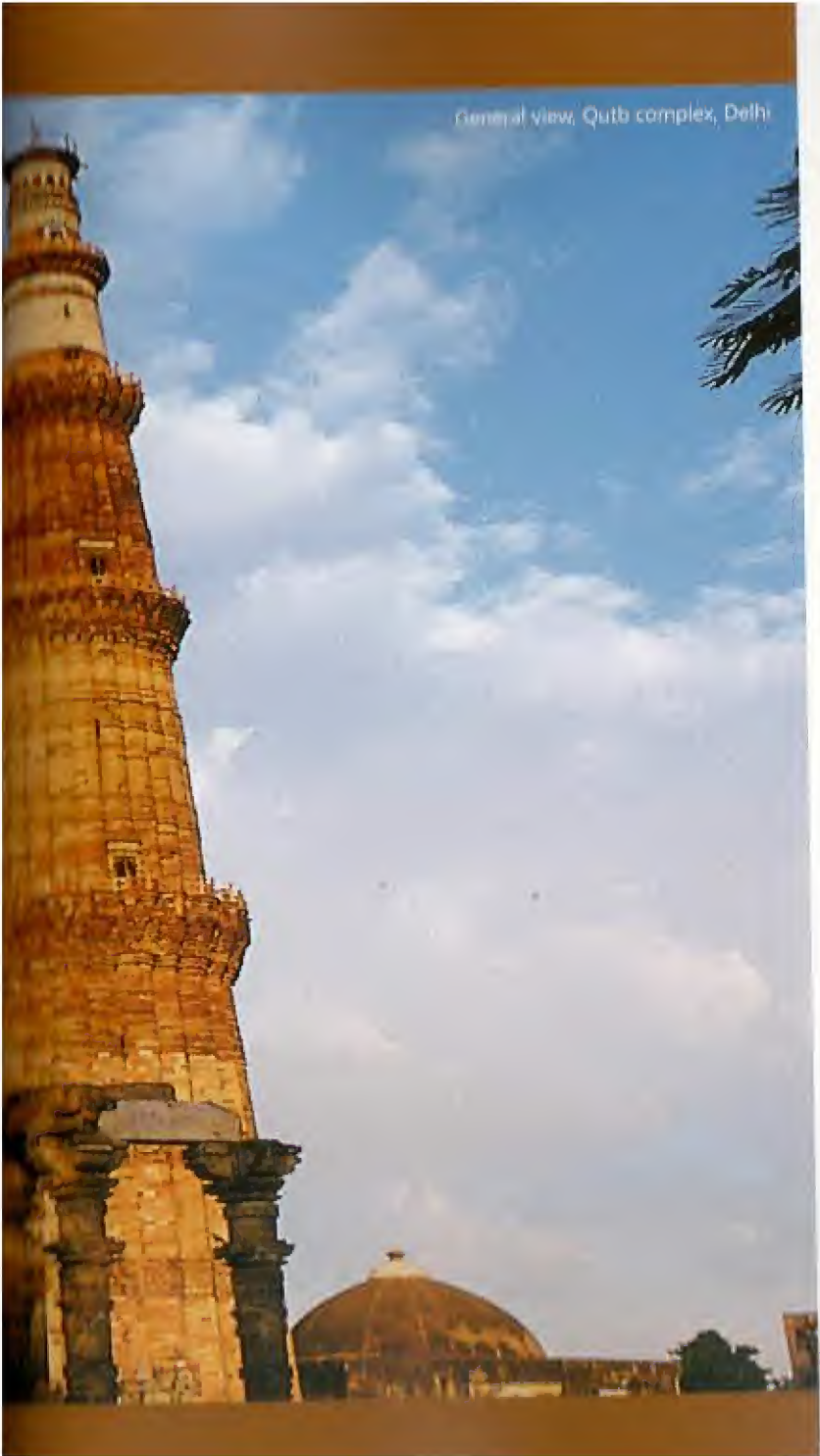


Jama Masjid depicting the medieval Gujarat architectural style, Champaner

Glory Regained

After Champaner was declared a world heritage site there has been increase in the number of tourists. Facilities for tourists have been provided. Conservation measures have been undertaken in the Jama Masjid, pathways have been laid connecting the individual monuments with one another. Chhajja stones have been provided where required, damaged corridors have been repaired and the damaged porch towards the northern side of the Masjid has been reconstructed. The old brick wall of the Kabutar Khana pavilion has been restored and repaired while lime plaster has been provided on the front side wall and ceiling of the pavilion. Desilting of the wells has been carried out. Restoration of the old brick walls attached to the gate have been effected.





General view, Qutb complex, Delhi

The Qutb Minar Complex

Delhi

Sweeping a fiery path across the northwestern frontiers of India came armies from Afghanistan, lured by the fabled wealth of India and impelled by the zeal to spread Islam. The first batch of invaders plundered and pillaged, then left for their homes, carrying the booty sequestered from towns and villages. It was only in the twelfth century after the victory of Muhammad Ghori over Prithviraja Chauhan that the new rulers settled down to make Hindustan their home.

Erection of buildings is a necessary adjunct to dominion; palaces, offices, arsenals, places of worship and storehouse of treasure. The invaders brought with them the architectural tenets of Islam. One of which was the prohibition of any representation of the Almighty especially in places of worship. As the Muslim historian Hasan Nizami has noted: "After the conquest of every fort and stronghold it was custom to demolish their foundations and pillars." However, in the absence of readily available building material, despoiled structures provided stones and pillars for reduced edifices. Out of this involuntary symbiosis developed a new style of architecture that is generally called Indo-Islamic.

The special features of this school were the use of dressed stone, the introduction of *chhatris*, *chhajjas* or eaves and *jharokhas* or window embrasures. Though Islam prohibited any ornamentation apart from geometric patterns and religious inscriptions, the traditions of temple building with its elaborate ornamentation found its way into Islamic structures. This phenomenon could be seen on the walls of monuments especially to mention the massive stone screens in front of the prayer hall of Quwwatul Islam mosque (1192-98 AD) built by Qutbud-Din Aibak in the Qutb Complex. The Hindu craftsmen who were employed naturally introduced their craft and designs into the monuments. The fusion of these two different schools of art and architecture led to the development and evolution of Indo-Islamic architecture.



A view of the Qutb Minar at dusk.

Qutbud-Din laid the foundation of the Qutb Minar, the tallest stone tower in India, 72.5m in height, probably as a tower of victory and as a Minar (*mazna*) attached to the mosque from which the faithful were called to prayer by the *muezzin*. This magnificent structure seems as if made of a cluster of columns giving it an accordion effect. It is said that the Qutb Minar is modelled on similar brick towers in Aibak's native Ghazni. Art historians have found similarities of the Qutb Minar with similar ancient structures in Ferozabad and Khorasabad of Persia. The entire exterior of the Minar is carved with inscriptions in the stout Kufic script interspersed with floral motifs. The spirit of power and glory is fully reflected in this massive tower of victory.

In the same complex is located the tomb of Iltutmish (1211-36 AD), son-in-law and successor of Qutbud-Din. The square tomb chamber intended to be covered with a dome as suggested by the squinches, which appears for the first time in this building, is now opened to the sky. The interior of Iltutmish's tomb is filled with elaborate carvings of arabesque designs and calligraphic inscriptions in the Kufi and Naskh script. The southern gateway of Quwwatul-Islam mosque as extended by Alaud-Din Khalji is known as Alai Darwaza. The red sandstone edifice with simple façade, profuse geometrical carvings on interior, due to its excellent proportions is rightly described as one of the most treasured gems of Islamic architecture. It reflects Saljuqian architectural features such as wide bulging dome with a central knob, horse-shoe shaped arches, squinches and lotus bud fringes of the arches. The inscriptions framing the gateways are in Naskh script and with geometrical designs that recall the ornamentation of Moorish architecture in Granada. In fact, Alaud-Din Khalji was a contemporary of the first Nasirid Emir of Granada. At some distance away stand the ruins of Alaud-Din Khalji's madrasa and his tomb. This is the first time that a madrasa and a mausoleum is combined.

Delhi by the virtue of location in a seismic zone receives earthquake shocks more than adjoining tectonically stable areas. Earthquakes in the past had effected damages to the Minar and one such shock of considerable magnitude in the year 1803 caused the cupola located at the top of Minar fell down on the ground, followed by repairs in the years 1805 and 1828. The Minar has a tilt of 25 inches in the south-west direction which may be attributed to the foundation weakness or construction in different stages. The rusting of iron dowels, solution and re-crystallization of soluble salts have rendered masonry weak and developed cracks. In recent times, the Minar has been carefully observed in view of the bulges in the masonry and cracks in the veneering stones which is attributed to the excessive use of mortar in the construction of the Minar.



Major Smith's Cupola, Qutb complex, Delhi



Piercing the sky - Qutub Minar, Delhi



A colonnaded structure, Qutub complex, Delhi



Flutings, Qutb Minar, Delhi



Colonnade of temple-pillars, Quwwatu'l-Islam-Masjid, Qutb complex, Delhi



Stalactite and other ornamentation, Qutb Minar, Delhi

Glory Regained

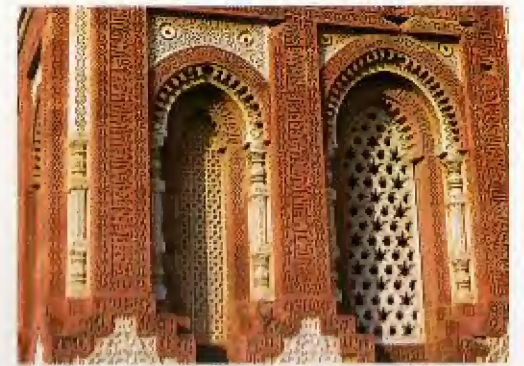
The foundation of the Minar has been strengthened by grouting the voids below and around the Minar to consolidate the loose fabric of the masonry of foundation. Structural repairs to the Minar have been imparted by way of underpinning, pointing of joints, restoring, decayed and damaged veneering stones, wherever necessary as per original, stabilizing the core masonry by grouting, etc. Chemical preservation has been done by removing harmful deposits of dusts, grease, birds' excreta, wasp nests, etc.



An arched gateway in the Qutub Minar complex, Delhi



Standing like a sentinel, Qutb Minar, Delhi



Ornate motifs and calligraphy adorning the wall of a structure, Qutb Minar complex, Delhi



A magnificent shot of a church, Goa

Churches and Convents of Old Goa

The Portuguese conquest of Goa coincided with the apogee of Portuguese power in the early sixteenth century. The discovery of the New World had given Portugal extensive territories in South America through a Papal Bull in 1498. Though Goa has a history dating from early time when she was ruled by various Hindu dynasties as well as the Bahamani Sultans of Gulbarga and Adil Shahis of Bijapur, Goa is famous today for its Portuguese heritage. As with British rule in India the Portuguese conquest unleashed architectural impulses that found expression in the grandeur of churches and austerities of monasteries and convents. Though the establishment of the Portuguese colony was in pursuit of commerce the religious zest for conversion was no less. Monastic orders came in the wake of Portuguese conquistadors, vying with each other for building churches.

When the Italian Renaissance was in full flower in sixteenth century, European craftsmen, architects, painters, sculptors were all influenced by the classical Graeco-Roman styles. One may see echoes of the Basilica of St. Peter in the church of Saint Cajetan while the austere façade of Sé Cathedral bears resemblance to the Basilica of St. Paul in Rome, and the church of St. Francis of Assisi is built in the early Tuscan style.

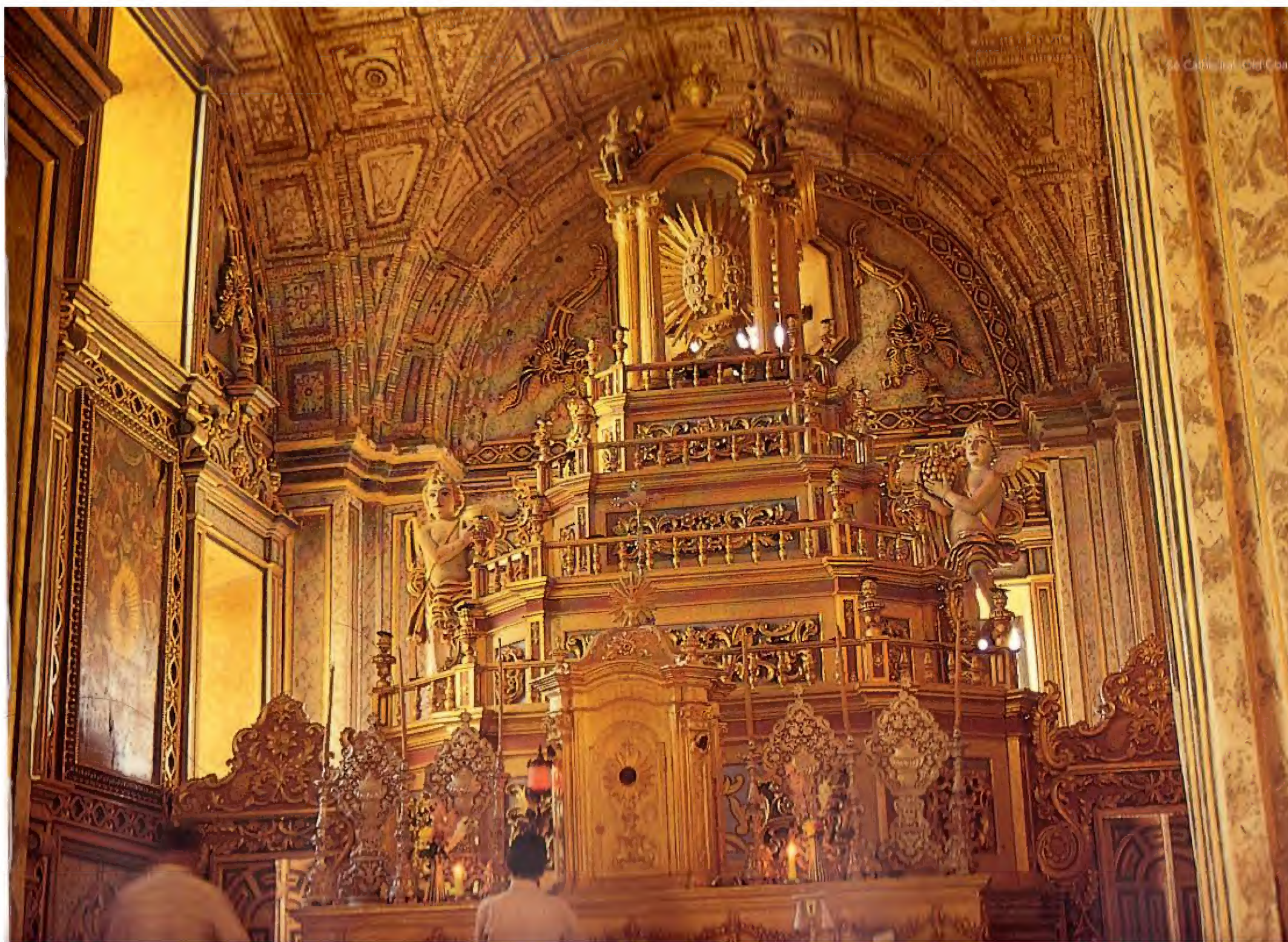
The churches were built of red laterite stones with Romanesque façades, Doric, Ionic and Corinthian pillars at the entrances. Most of the churches have raised platforms with a barrel vault above the nave. When the classical style of the Renaissance gave way to the Baroque in Europe the churches of Goa reflected this change. There is considerable use of gilt for ornamentation and the paintings are of vivid hues. Most of the statues depicting Christ, Virgin Mary and prominent Christian saints were executed in wood rather than stone. Since the artisans were Indians the representations of these figures have an oriental flavour as may be seen in the altar painting of the Chapel of the Holy Ghost. Nevertheless the intensity of religious fervour is mirrored in the scenes of the Nativity and Crucifixion. The altars of the churches are heavily ornamented reflecting both the Moorish heritage of the Iberian peninsula as well as the wealth of the Portuguese empire.



Sé Cathedral, Goa

The most venerated of the churches in Goa is the Basilica of Bom Jesus. Built with local laterite, it is unique in style having an austere three-storeyed façade. The main altar of the Basilica is profusely gilded as a backdrop for the image of Bom Jesus or Infant Jesus. The pillars on either side are richly ornamented. The interior has a large number of wood carvings. It is here that the body of St. Francis Xavier is kept in a chapel in a relic casket. There are scenes depicting the life of this proselytizing saint. The church is shaped like a Greek cross and supported by Corinthian pillars. The main altar of the church of Saint Cajetan was probably inspired by the Baldacchino of Basilica of St. Peter in Rome. The other minor altars are heavily carved with gilded wood with angels and figures of saints.

As an art historian has said, the Portuguese carried their culture with them. Nowhere is it more exemplified than in the churches of Velha Goa where no concessions are made for either the Indian climate as may be seen by the predominant use of wood that led to severe deterioration during the heavy west coast monsoons or to earlier Indian styles and traditions. Portugal's certitude and her imperial mood are reflected in these edifices.





Gilded altar of Basilica of Bom Jesus, Goa



Profusely gilded image of Infant Jesus, Basilica of Bom Jesus, Goa



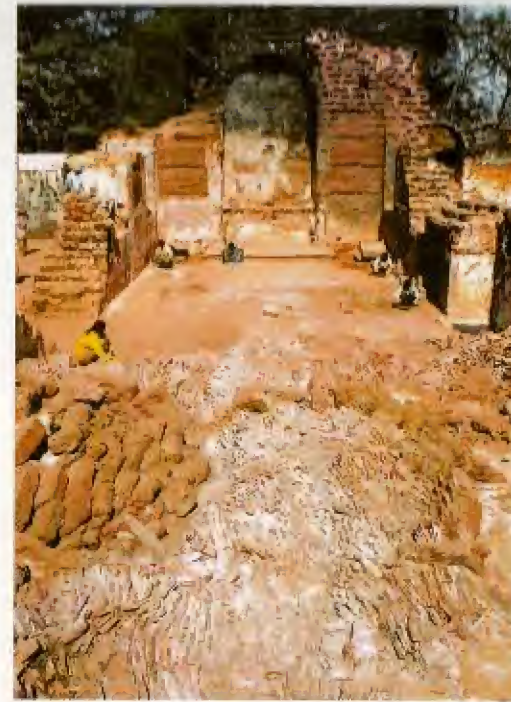
Church of St. Cajetan – before conservation



Church of St. Cajetan – after conservation



St. Augustine Complex, Old Goa – before conservation



St. Augustine Complex, Old Goa – after conservation

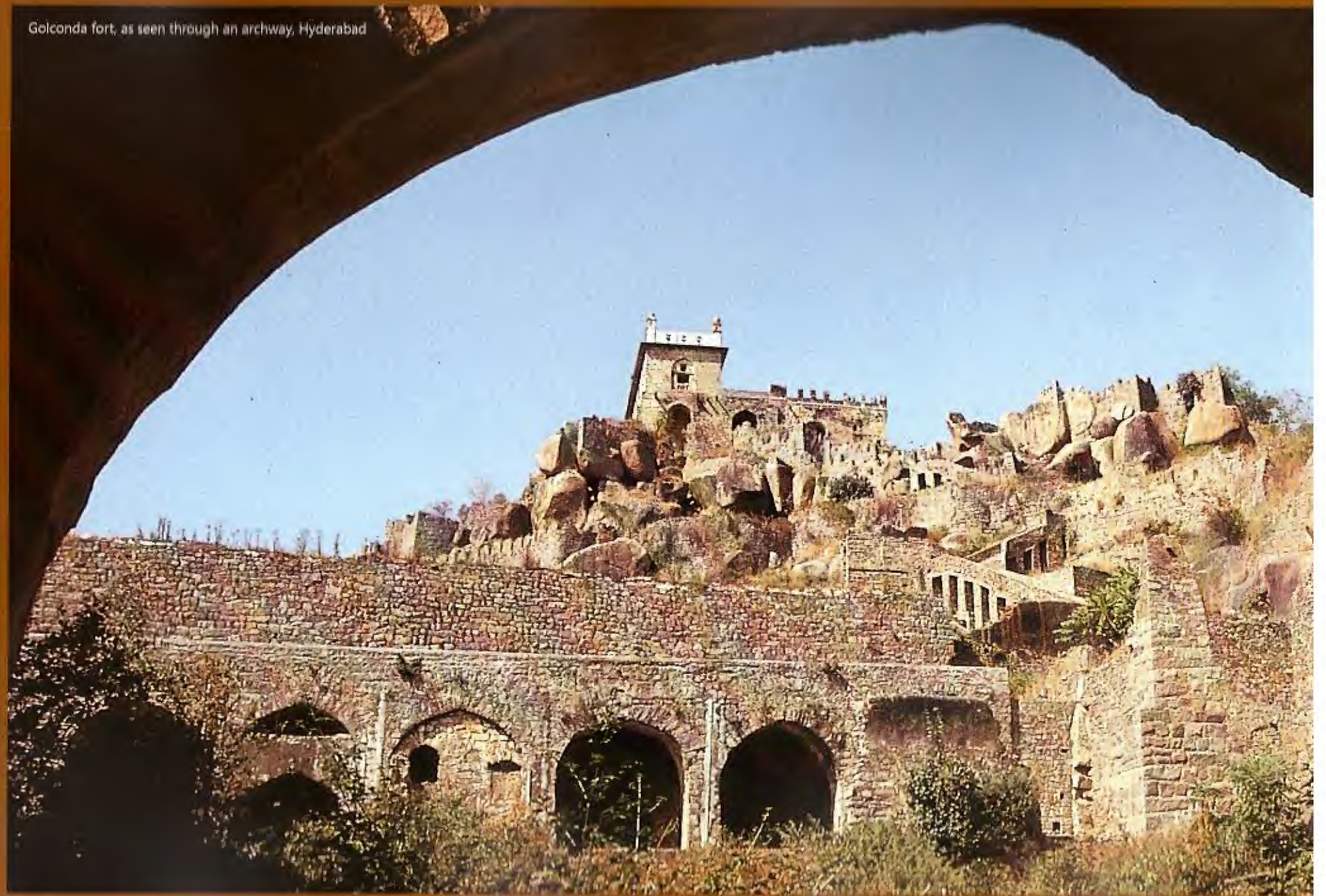
Glory Regained

Since the Portuguese builders of these churches did not take into account the climatic problems of the west coast, from the very beginning these edifices have been damaged by salinity and capillary action which has led to the weathering and disintegration of stone and wood, the chief materials used for construction and for interior embellishments. Nevertheless when Goa became a part of the Indian Union the ASI has taken conservation measures to preserve the churches. Restoration work has been taken in the St. Augustine Complex of Old Goa such as the conservation of the tower, refixing of the Azulejos tiles and consolidation of the fallen remains. Major restoration work has been taken in the church of St. Cajetan by providing balustrades and railing on the dome of the church. The venerated Basilica of Bom Jesus centre has suffered serious damage due to weather and fire. The ASI has taken up stitching of the cracks within the sacristy caused by the subsidence of the foundation. The Church of St. Francis has been repaired. Being older than the others and more used there has been considerable wear and tear on this church. Stitching of cracks has also been taken up in Se' Cathedral. Grouting of the cracks with mortar and re-plastering has also been done. The famous fort of Aguada has received the attention of the ASI with clearing of vegetation, watertightening of the hall, ceilings, laying of tiles and re-plastering of walls.



An example of Portuguese architecture, amidst coconut palms, Goa

Golconda fort, as seen through an archway, Hyderabad





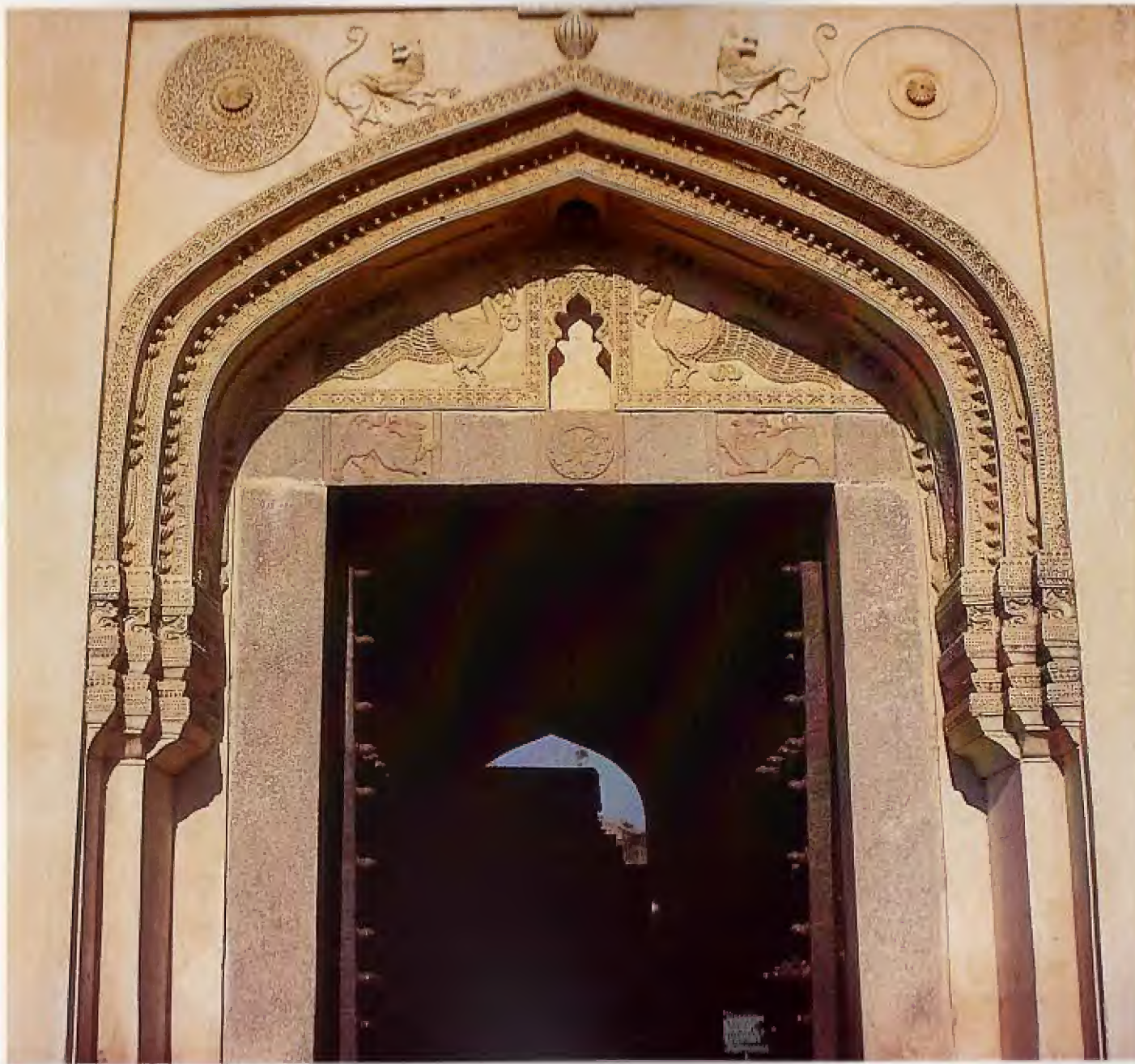
Golconda Fort

Hyderabad, Andhra Pradesh

The Golconda fort was initially undertaken during the reign of Kakatiyas in the early thirteenth century. After finding a holy image in the hill, one of the Kakatiya kings built a mud fort in that place. The Bahamani sultanate occupied this part of Andhra in the fourteenth century. It was early in the sixteenth century that the mud fort of the Kakatiyas was expanded by the Qutb Shahi Sultans. A massive fort was built out of the granite hills with a circumference of five kilometres. Like the Mughals the Qutb Shahis were great builders; there are many monuments erected by this dynasty.



Visitors in the Zanana enclosure, Golconda fort, Hyderabad



Richly decorated stucco façade of Bala Hissar entrance, Golconda fort, Hyderabad

The majestic Baradari atop granite hills, Golconda fort, Hyderabad



Golconda fort has four distinct parts with an encircling outer wall seven kilometres long. The wall is punctuated by eighty-seven semi-circular bastions, eight gateways and four draw bridges. Inside it, well fortified citadel with numerous royal apartments and halls, mosques, arsenals and stables for horses and elephants. The impressive Fateh Darwaza was built by Aurangzeb after he defeated the Qutb Shahis in 1687. Another imposing gateway is the Balahisar Darwaza whose spandrels are decorated with stucco panels. There were administrative buildings such as offices of Akanna and Madanna the two Hindu officials who served the Qutb Shahi rulers. There are derelict remains of the Ambar Khana where food-grains were stored and the Bari Baoli or large well. The Qutb Shahis were known for their tolerance and allowed their Hindu officials to build temples. They also maintained the temples dating from the Kakatiya period. Murals depicting Hindu deities were not disturbed or destroyed by the Qutb Shahi rulers. The carved images of Ram, Lakshman and Hanuman in relief stone are still existing. The Qutb Shahis also built their own places of worship such as the beautiful mosque with slender minarets built by Ibrahim Quli Qutb Shah. The courtyard of the mosque extends to the fort ramparts offering a panoramic view of the surrounding terrain.

At the highest level is the Balahisar Baradari, a three-storied structure with twelve arches and an open pavilion. This was the darbar hall of Qutb Shahi rulers. On the top-most level, there was a stone throne.

Below this, is the Zanana Palace called the Rani Mahal. The palaces of the queens and concubines were constructed on large platforms that had high ceilings and walls embellished in the Persian style with alcoves and cornices. The Rani Mahal was famous for its beauty and luxury. Two sisters, Taramati and Premati, were famous courtesans who entertained the Qutb Shahi rulers with their dancing. The Taramati Gana Mandir and the Premati Nritya Mandir were constructed for their performances.



A close view of an interior in Zanana palace, Golconda fort, Hyderabad



Railings guarding the stately Golconda fort, Hyderabad

As with all Muslim dynasties, the Qutb Shahis built their tombs outside the citadel. Though as not as imposing as the Mughal or the Lodhi tombs of north India, these mausoleums were simple but stately. Each of them was enclosed by gardens.

The glory of the Qutb Shahis came to an end when the Mughal Emperor Aurangzeb defeated the Qutb Shahi ruler in 1687. Unlike his great ancestors, Aurangzeb believed in destroying the edifices of his foes. Determined to see that the Qutb Shahis did not rise again, the great fort of Golconda was destroyed.



Rani Mahal, reflecting the Persian style alcoves, Golconda fort, Hyderabad

Glory Regained

Extensive conservation measures have been undertaken at Golconda in recent years. There has been documentation of building work providing pathways to internal buildings, removal of accumulated debris, landscaping and development of lawns and repairs to Judgment Hall, Rani Mahal, Ashlia Khana, Darbar Hall, Zenana Palace, Taramati Palace. Extensive repair works have been executed at the Mulla Qayali Mosque and Naya Qila. Pointing work at the fort wall and repairs of the bastions were taken up. The dislodged medieval walls and the damaged steps at Ibrahim Mosque have been repaired. The stucco works at Kilwat and Ambar Mahal were taken up. The cyclopean masonry wall at Kilwat has been reset and landscaping has been done around Fateh Darwaza. Conservation measures have been undertaken in the Nagina Bagh and the Rani Mahal. The fallen retaining walls have been reconstructed. Measures for harvesting rainwater to the gardens has been taken up. To help physically challenged people, a rampart with wooden planks has been provided to reach the Rani Mahal. The fortification wall around the Naya Qila and the Burz Bastion have been reconstructed. The restoration work at the Nagina Bastion has begun. Watertightening of excavated structures has been undertaken.



Ibrahim Rauza mosque, Bijapur



Gol Gumbaz

Bijapur, Karnataka

Dominating the skyline of Bijapur the Gol Gumbaz is an archetypal edifice of the Deccan Muslim style. Built in the heyday of the Adil Shahis this area had once been part of the Bahamani kingdom. These edifices have similarities with those of Berar, Ahmednagar, Bidar and Golconda. The Adil Shahis were descendants of a princely Turkish family and brought with them the architectural styles of their ancestral home.

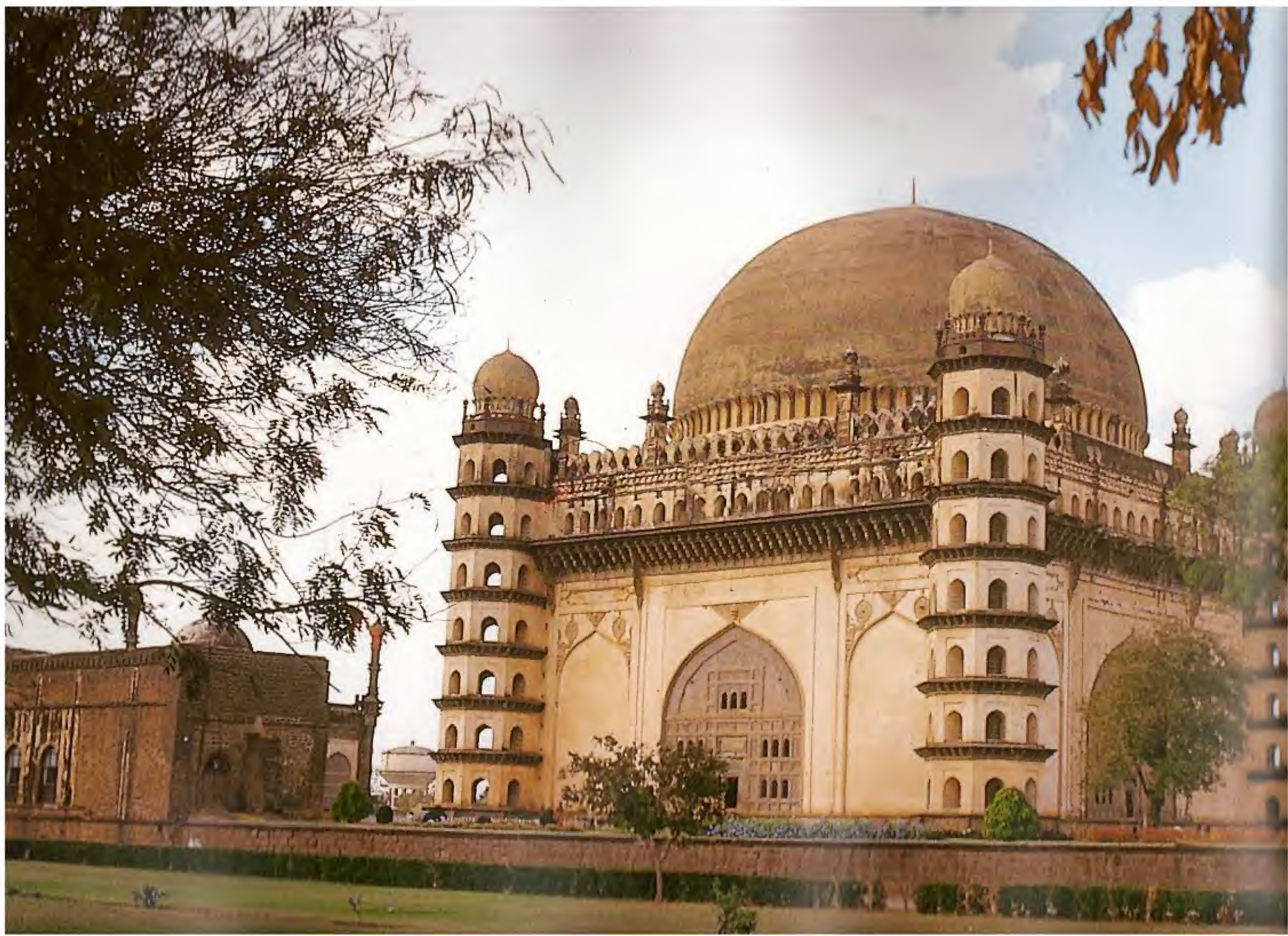
The Adil Shahi dynasty were great builders. Some of the most impressive monuments of the Deccan region in Karnataka and Andhra were built by this dynasty. The medieval Muslim rulers of the Deccan who were mainly soldiers of fortune of Turco-Afghan descent brought with them the architectural style of their native places. Though the architectural styles were imposing, the edifices of the Adil Shahi and Qutb Shahi rulers lacked the grace and elegance of Mughal buildings. They had more similarity with the structures built by the Lodis and Khiljis.





Mohammed Adil Shah built the Gol Gumbaz. The Gumbaz or the circular dome dominates the monument which is built in the sturdy style of Deccan Muslim monuments. Unlike the marble and red sandstone used in north India the builders utilized the local dark brown stones for construction. The tomb is built as a huge cube with storied towers crowned by circular domes projecting at the corners. Each phase has a large central arch flanked by two smaller ones. The famous bulbous dome is set on a foliated drum.

The Gol Gumbaz has been made famous by its unusual dome which has a diameter of 144 feet and covers the largest uninterrupted floor spacing in the world. The dome of St. Peters Basilica in Rome is larger in diameter and rises vertically over a circular plan of the same size or diameter. The dome of Gol Gumbaz covers the largest domed space in the world. Inside the mausoleum there is a square chamber of massive proportions and height. The heaviness of the structure is relieved by ornamentation imparting to the edifice an aura of simple majesty. The intercepting arches under the dome forms the whispering gallery where the slightest sound reverberates many times. Along with the tomb of Mohammed Adil Shah there are cenotaphs indicating the burial places of his wife, a daughter and a grandson.





Gol Gumbaz dominates the skyline, Bijapur

Mohammed Adil Shah built the Gol Gumbaz. The Gumbaz or the circular dome dominates the monument which is built in the sturdy style of Deccan Muslim monuments. Unlike the marble and red sandstone used in north India the builders utilized the local dark brown stones for construction. The tomb is built as a huge cube with storied towers crowned by circular domes projecting at the corners. Each phase has a large central arch flanked by two smaller ones. The famous bulbous dome is set on a foliated drum.

The Gol Gumbaz has been made famous by its unusual dome which has a diameter of 144 feet and covers the largest uninterrupted floor spacing in the world. The dome of St. Peters Basilica in Rome is larger in diameter and rises vertically over a circular plan of the same size or diameter. The dome of Gol Gumbaz covers the largest domed space in the world. Inside the mausoleum there is a square chamber of massive proportions and height. The heaviness of the structure is relieved by ornamentation imparting to the edifice an aura of simple majesty. The intercepting arches under the dome forms the whispering gallery where the slightest sound reverberates many times. Along with the tomb of Mohammed Adil Shah there are cenotaphs indicating the burial places of his wife, a daughter and a grandson.



Ibrahim Rauza mosque - highlighting the Gujarati Muslim architecture



Imposing Barah Kamaan, Bijapur

Glory Regained

Some years ago, the dome masonry developed a number of cracks and patches of plaster from the inner side, which caused transverse cracks in the brick shell. This affected the acoustics of the monument. Experts advised the re-plastering of the dome for the stability of the structure and for preserving the unique qualities of the dome it was decided to provide a twelve-centimetre thick reinforced concrete gunite shell below and against the intrados of the dome. Investigations were made on the factors which led to the appearance of the cracks. Since then, action has been taken to ensure that while executing conservation measures, the structural mechanics of the dome is not disturbed as this would diminish the power of the acoustics and the ingenuity of the unique design of the dome.

Lotus Mahal, a synthesis of Hindu and Muslim architectural style, Hampi





Hampi

Karnataka

Hampi, or Pampakhshetra is a land hallowed by history and legends. According to tradition this is the Kishkindha of *Ramayana* where Bali and Sugriva fought their mortal battle. Tradition again says that Malyavanta hill is where Rama waited. Rock-cut edicts of the Asokan era have also been found here. Then came the Chalukyas, Rashtrakutas, Hoysalas and Yadavas. Two brothers, Harihara and Bukka, established the Vijayanagara Empire of which Hampi was the capital. The two Deva Rayas consolidated the kingdom. An Italian visitor to Vijayanagara, Nicolo Conti, has described the splendour of the capital, the colourful festivals and the luxurious life of the monarch. Dominigo Paes and Fernao Nuniz visiting Vijayanagara in its heyday have left vivid description of a fabulous empire. Abdul Razak, a traveller from Herat, has also marvelled at the magnificence of Vijayanagara - its formidable citadel and markets laden with jewels, silks and flowers.

Vijayanagara's prosperity continued and reached its zenith under Krishnadeva Raya in 1509. He was an intrepid commander of armies, a scholar, administrator, poet and a generous patron of art, music and sculpture. It is under him that the finest monuments of Hampi were built. Vijayanagara was a well defended citadel with seven lines of fortification that made invasion almost impossible though the defences were indeed broken at the battle of Talikota. Within the citadel is a remarkable collection of monuments that can only hint at the splendour of the imperial city of the fifteenth and sixteenth century.





Entrance to Anequrdi, Hampi



A bird's eye view of Hampi



Virupaksha temple, Hampi



Stepped tank, Royal enclosure, Hampi

The first to appear before us is a large square structure with a simple exterior and an embellished interior of stucco work, ornate corridors and balconies. This has been identified as the Queen's Bath. Nearby is the enclosure of the King's Palace. Within this, is the Mahanavami Dibba where music and drama entertained the court during Navaratri. Travellers of Krishnadeva Raya's time described the magnificence of this area. Even from the existing walls of the tiers, one may see depictions of animals and court scenes. A small chamber on the eastern side has a wall, which contained freezes depicting foreign embassies at the Court as well as contemporaneous social scenes.

The King's audience hall stands to the west of Mahanavami Dibba. This was the highest building within the citadel... said to be a hall of hundred pillars whose remains can still be seen. There are platforms built in green chlorite with lotus designs and wide steps. Other steps lead to what was the ladies apartments from where they could watch the proceedings of the Court as well as entertainments on festive occasions. There are remains of a platform where sacrificial fires were lit before a shrine. In front of the audience hall is a large area where the citizens of Vijayanagara came to partake in the festivities of Navaratri and where royal pomp and panoply were displayed to inspire both awe and respect.



Sculpture, Krishna temple, Hampi



Stone chariot, Vitthala temple



Queen's bath



Friezes, Mahanavami dibba

One of the most famous monuments of Hampi is the Hazara Rama temple built in the time of Devaraya-I in fifteenth century. This temple was dedicated to Vishnu in the avatar of Sri Rama. It is located in a rectangular enclosure with gateways on the east and north containing porches both inside and outside. The interior is massive but simple except for the mandapa columns whose shafts are elaborately sculptured with images of Vishnu in various incarnations and aspects. The Kalyana *mandapa* at the north-east corner of the courtyard was built during the reign of Krishnadeva Raya. The outer enclosure walls are covered with friezes of animals, soldiers in martial displays and dancing women and musicians.

The Krishna temple was built by Krishnadevaraya to celebrate his victory in Orissa from where he brought the image of Balakrishna that was installed in this temple built in the Vijayanagara style. This large temple with a number of sub-shrines is enclosed by high cloistered prakara walls. There are pillared entrance porches to the north and south of the closed hall. There are other temples also of architectural importance – the Vitthala temple which represents the archetypal Vijayanagara architecture, the Raghunatha temple of late Vijayanagara style.

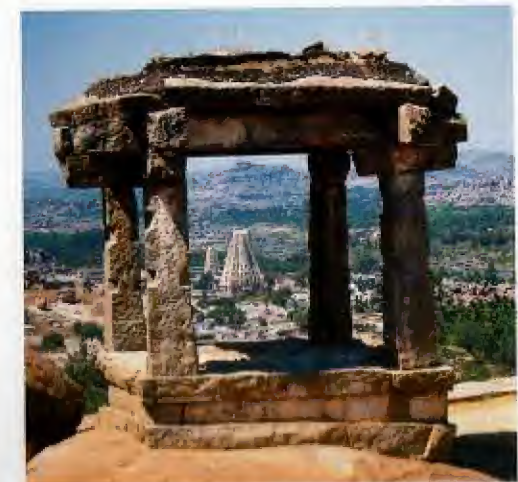


The Zanana enclosure consists of tapering walls of great height built with huge stone blocks, earth and rubble. This contained a two storied pavilion of vaulted rectangular structure and watch tower. The water pavilion is set within a rectangular tank at the south west corner of the enclosure. The tank once had a corner pavilion suspended over the water. The Lotus Mahal is located to the east of the water pavilion and is a two storied edifice built in a synthesis of Hindu and Muslim architectural styles. It is an open pavilion on the lower level and partly enclosed with windows and balcony on the upper level. The ground floor has an ornate basement with square pillars that have recessed and foliated arches. The super structure consists of nine pyramidal towers with ribbed or octagonal domed roofs.

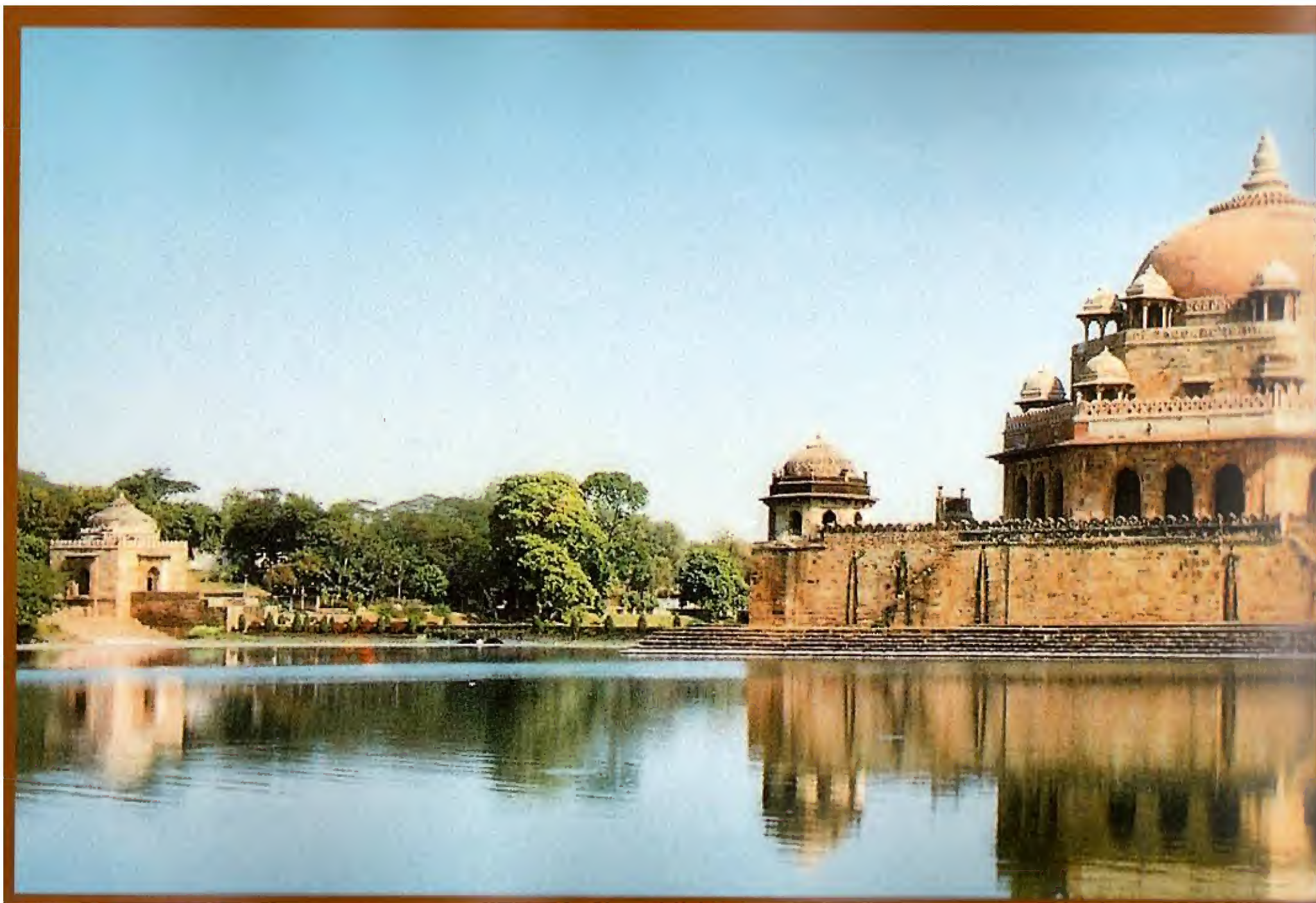
There is a vaulted rectangular structure standing in the north-west corner of the enclosure, which has been identified as the storehouse of arms and ammunitions. There are three watch towers positioned in the walls of this enclosure surveying the approaches to the royal centre. The Mint, the Commander-in-Chief enclosure, the Water Pavilion, quarters for the women guards, the apartments of the royal ladies give an idea of the aspects of secular life in Vijayanagara. The open space where stood guards, horses, palanquins, elephants and chariots are now empty, but must have pulsed with life and colour in the heyday of the empire.

By the late sixteenth century, the high noon of the Vijayanagara sun had passed. Her armies which had conquered lands in east and south were now in retreat when faced with the more organised host of Ahmednagar. The great city fell to the invaders while the ruling elite fled to Penukonda and Chandragiri.

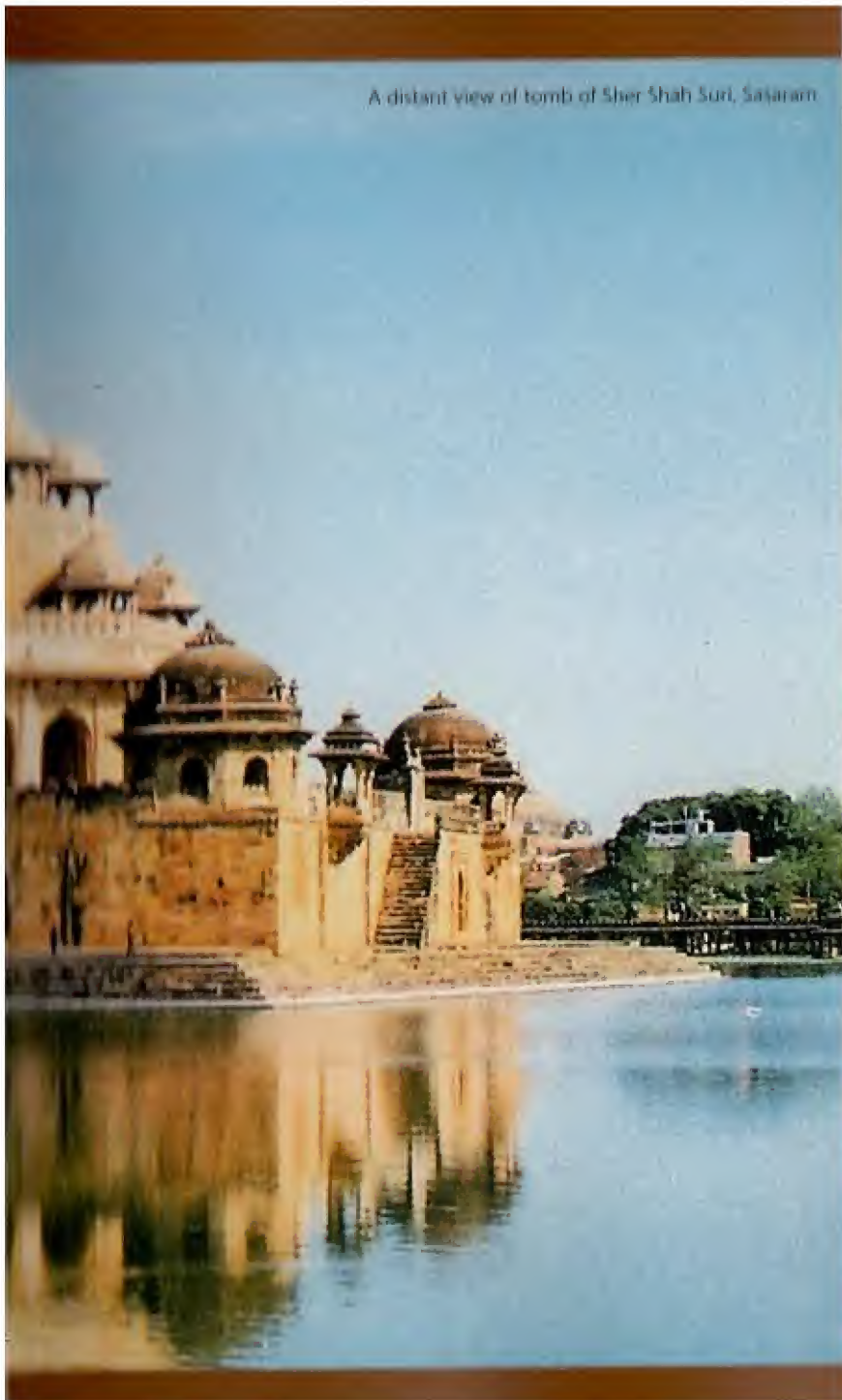
As in all places in India the temples remain places of devotion and interest even after the palaces have been abandoned to time. The glory of Vijayanagara and Hampi still lives in the pujas performed in the temples of Virupaksha and Vitthala built by kings whose names are now part of history. The Vijayanagara rulers preserved the great traditions of south Indian literature, music, art and architecture.



Gopura, Hampi



A distant view of tomb of Sher Shah Suri, Sasaram



Tomb of Sher Shah Suri

Sasaram, Bihar

Sher Shah Suri ruled north India between the reigns of Humayun and his son Akbar. Apart from his many administrative achievements, Sher Shah was an avid builder. His most enduring achievement was the construction of the famous Grand Trunk Road and Purana Qila. This imposing fort has the solid magnificence of Turco-Afghan architecture with massive bastions set on high walls of rubble masonry. There are battlemented parapets above a row of arrow slits. The gates are made of red and buff sandstone ornamented by carvings on it.



Another view of Sher Shah Suri's tomb, Sasaram

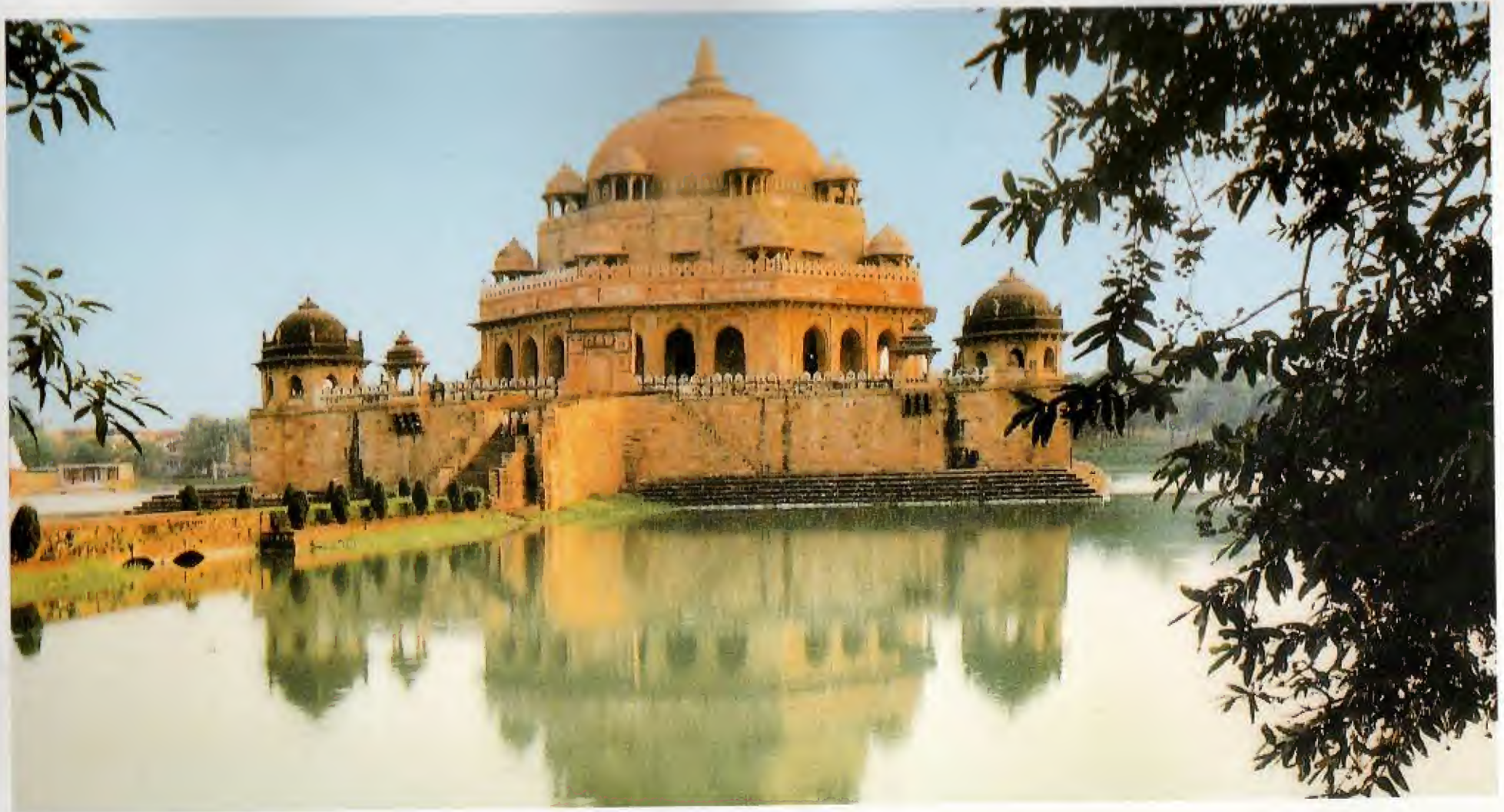


Amidst sylvan surroundings, Sasaram

By comparison, his tomb at Sasaram in Bihar has an austere simplicity that reflects the personality of this able ruler. It is an impressive representation of pre-Mughal architecture. Partly veneered in stone, it is a brick structure rising from a platform of two terraces that have pillared domes on the upper terrace and pillared kiosks on the corners of the roofs of two stories above. The terrace is enclosed by a parapet wall with octagonal domed pavilions at four corners. The tomb is reached by a causeway from the northern bank where a dignified domed structure serves as the gate. The mausoleum itself stands in the middle of a terrace on a low octagonal plinth. The edifice consists of a large octagonal chamber surrounded by a wide terrace. Eight pillared cupolas surround the main door. The mausoleum was originally decorated with coloured tiles of which few remain. The tomb was completed by Sher Shah's son Salim Shah in 1545. A two-line inscription is inscribed in an arch recess above the mihrab on the western wall - a brief homage to his remarkable reign.



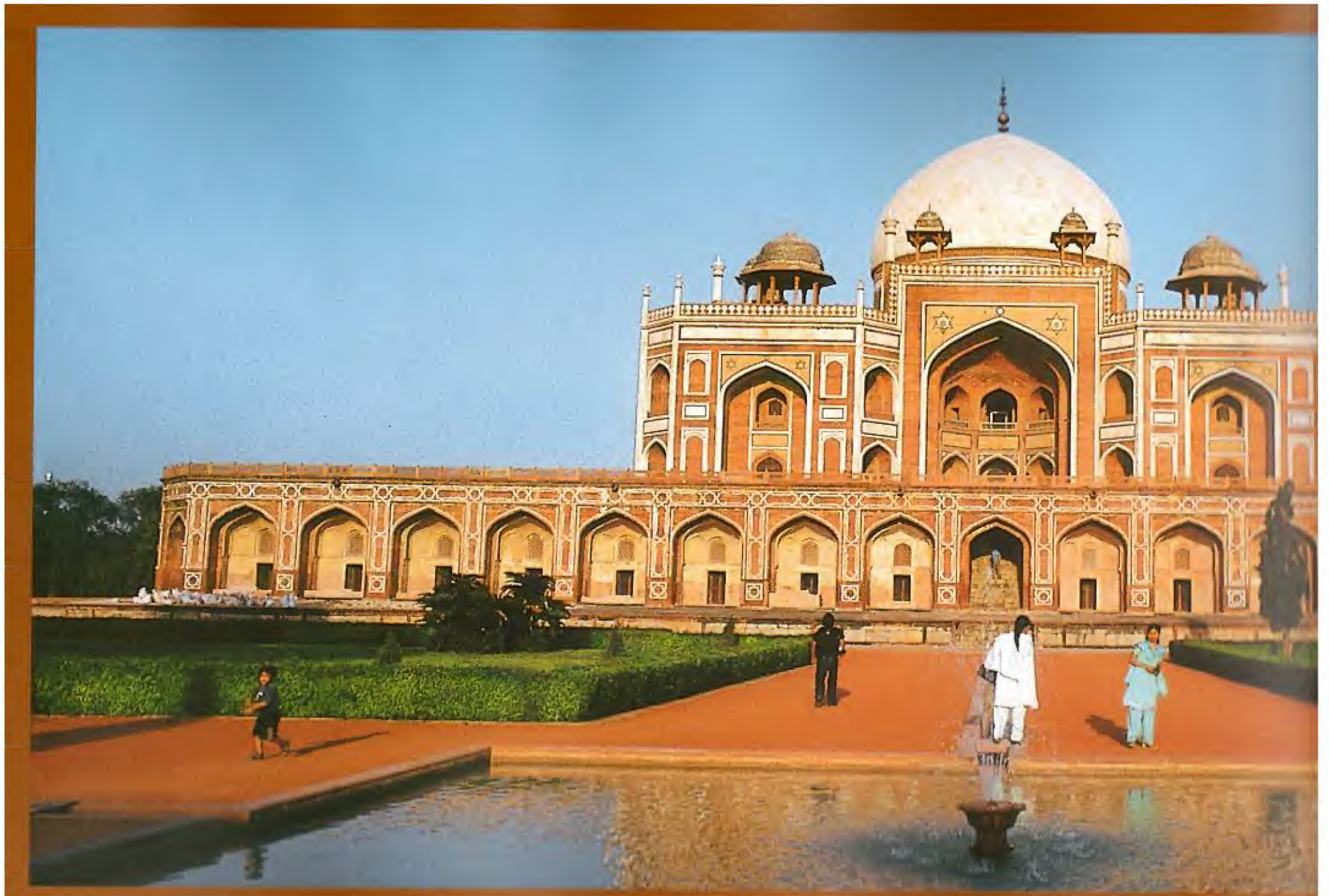
On the roof of Sher Shah Suri's tomb, Sasaram



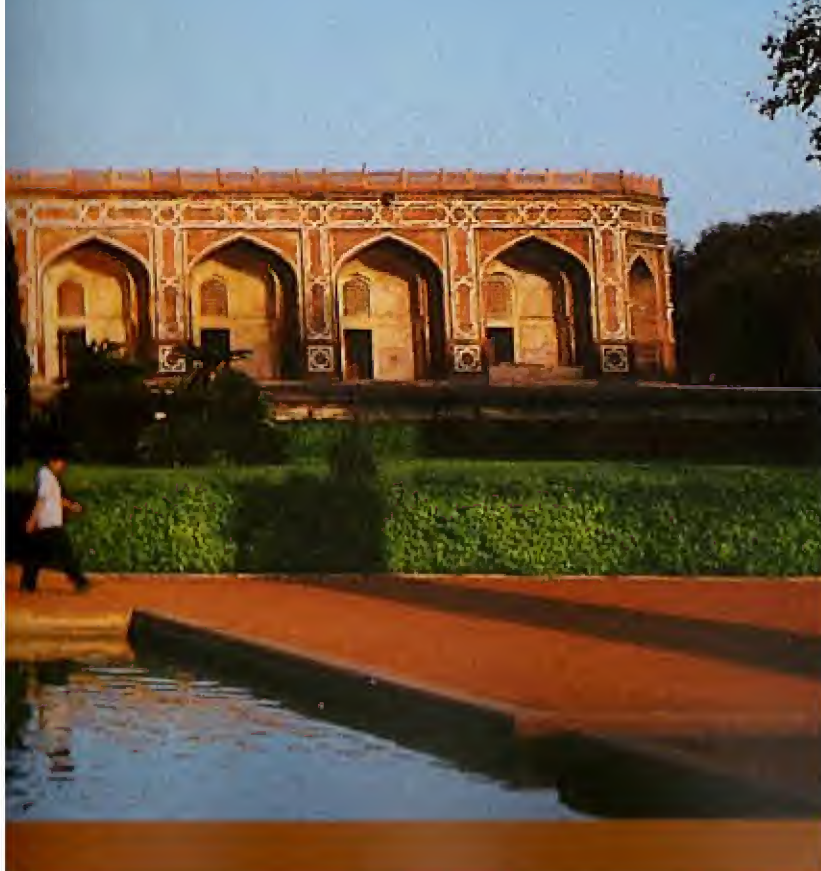
Tomb with a reflection in the pond, Sasaram

Glory Regained

The monument has been remarkably well preserved due to the meticulous building strategy of Salim Shah. Apart from minor cracks and fissures, and seepage problem the tomb-edifice has no major structural problems. The chief conservation concern is the maintenance of the tank within which the main mausoleum is situated. Periodically the stagnant water of the tank has to be drained after the revival of inlet and outlet channel and the ambience of the monument has to be cleaned.



Humayun's grand mausoleum, Delhi



Humayun's Tomb

Delhi

Born to Babur when he was still a Prince of Ferghana, Humayun came to India when his father became the ruler of Hindustan. He had neither Babur's military brilliance nor the political genius of his son Akbar. Nor perhaps their good fortune. After a life of defeats and retreats, sometimes living as a royal fugitive, he managed to regain the throne of Hindustan. However, his days of glory were brief; he slipped and fell in his library (Sher-mandal) at Purana Qila and died soon after.

Bega Begum, Humayun's senior popularly known as Haji Begum, built the tomb in memory of her beloved husband nine years after his death in 1565, according to some but fourteen years according to the manuscript of an eighteenth century text. As the Mughal dynasty drew inspiration from their ancestral city of Samarkand the mausoleum has kinship with those of Timur's tomb in Samarkand – which is characterized by a central massive bulbous dome set on a high drum. The recessed arches and slender minarets are repeated in later Mughal edifices. The minarets are topped by unfurling lotus petals. This first substantial example of Mughal architecture with a symmetrical plan consists of a bulbous double dome on a high drum, high emphatic arches on façade, coloured tile work in geometrical pattern and arch-netting in the vaults. The cenotaph is ensconced on a high octagonal chamber. There are smaller chambers around it where other members of the Mughal family are interred.



An exquisite blend of Persian and Samarkand schools of architecture - Humayun's tomb, Delhi



The garden tomb architecture with charbagh pattern made a beginning in India with the building of Humayun's tomb, Delhi

The significance of Humayun's tomb is that this is the first time that the Persian and Samarkand schools of architecture were introduced in India. The pre-Mughal Muslim dynasties had brought architectural designs and construction that were solemn, heavy and massive, meant to impress and awe the Hindu population. We see this in the Qutb Minar and the massive Lodi Tombs. Humayun's long sojourn in the Persian court of Shah Tahmasp exposed him to the finer architectural styles of Persia where the palaces and mosques of Isfahan and Shiraz had reached perfection. When Humayun and his entourage returned to India, they brought Persian craftsmen and architects. Bega Begum commissioned Mirak Mirza Ghiyas, a Persian architect, who had designed buildings in Herat and Bukhara to design and supervise the building of her husband's tomb. Ghiyas was obviously a man of imagination who believed in adopting new styles. For the first time, we see the adoption of Rajput style of architecture with the use of *chhatris* along with beams of red sandstone and white marble. The mingling of two different styles of building – Persian and Rajput – brought a new stately grace and refinement to the buildings. The graceful vigour of Humayun's Tomb is a precursor of the new Indo-Islamic architecture that would culminate in the exquisite beauty of the Taj Mahal.



Inside, Humayun's tomb, Delhi

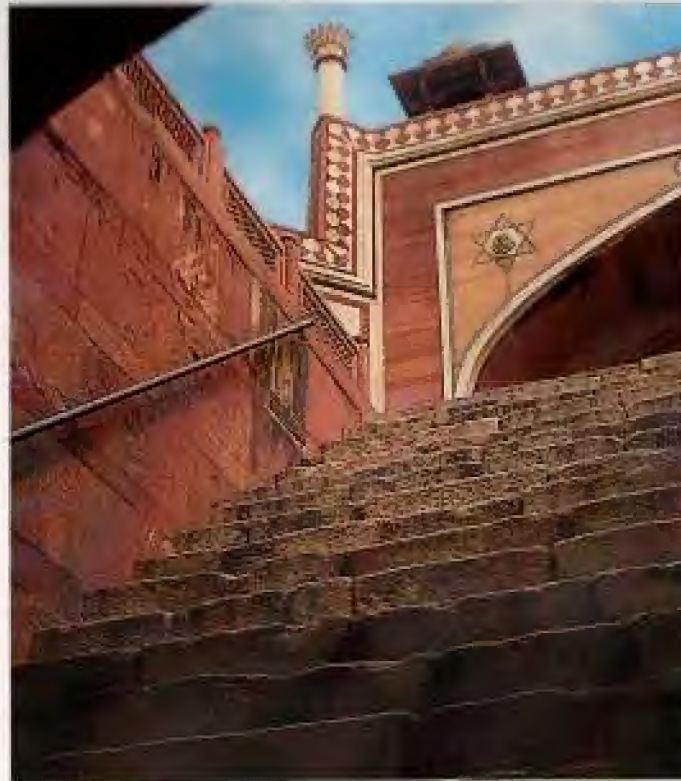
Longing for the fountains and streams of his native Ferghana, the first Mughal emperor Babur built many gardens and fountains. In fact his autobiography *Baburnama* lays down the rules and prescriptions for all future Mughal gardens which came to be known as Charbagh or four-sided gardens. He introduced the Persian design of a walled garden which was divided into four sides separated by paths and narrow water channels. This is the first time that garden architecture (Charbagh) was introduced in India. All future Mughal gardens followed this pattern whether in Sikandra, Lahore, Aurangabad or the exquisite gardens in Kashmir. In fact so great was Babur's love for gardens that in accordance with his wish his body was interred in a garden in Kabul with a simple tomb to mark the space. His son Humayun, who was neither warrior nor conqueror, had a tomb of solemn grandeur based on Charbagh concept although garden tombs were built even during Sultanate period.



Illuminated Humayun's tomb, Delhi



Humayun's grand mausoleum, Delhi



Red sandstone terrace - Humayun's tomb, Delhi

Glory Regained

A comprehensive conservation programme has been undertaken in the last few years comprising providing lime concrete terracing and flooring, plain plaster in lime mortar, ornamental moulded plaster, fixing sandstone chhatra, providing sandstone slabs on terrace, fixing corner pillars, repairing ornamental sandstone jalis, fixing veneering stone in the base of chhatra and drum, providing Makrana marble merlons and veneering stones in place of damaged and deteriorated as per original. Apart from the conservation of the main mausoleum, enclosure walls have also been repaired by pointing of masonry joints by removing dead mortar, plastering the drains on terrace, taking measures to prevent rain water seepage. Besides above, gateways and ornamental sandstone screens, ornamental plasters have also been repaired and restored.





The Citadel of Fatehpur Sikri

Uttar Pradesh

Akbar's dream of a multi-cultural, multi-religious and unified India is embodied in this unique sandstone citadel town. Here is the meeting place of the Mughal and Rajput ethos, Hindu emblems and Islamic symbols, the grandeur of imperial ambitions and the wordless homage to the spirit of Salim Chishti. There are few citadels that reflect the personality of a single man as does Fatehpur Sikri. It was built three hundred years after the Russian Kremlin and two hundred years after the Spanish-Moorish Alhambra. But both these grew out of a nucleus over several centuries reflecting changing styles of architecture, ornamentation and the imperatives of governance. Fatehpur Sikri was built in only few years.

Emperor Akbar was the grandson of Babar, the first Mughal ruler of India who claimed descent from both Timurlane and Chenghiz Khan. Babar's small fiefdom at Ferghana was nestled among the flowers and fountains of the Hindu Kush mountains. Though this Uzbek princeling knew the rigours of swift marches on horses and halting camps in tents, he carried memories of the grand buildings of his ancestral Samarkand, Bukhara and Khiva. However, Babur did not attempt to build anything in Hindustan; his heart was always in his native land. His son Humayun spent a substantial period of his life as a fugitive.



Majestic Buland Darwaza, Fatehpur Sikri



Exquisite geometrically designed stone pillar, Diwan-i-Khas, Fatehpur Sikri

It was Akbar who consolidated the newly acquired empire by subduing both Rajput and Muslim princes. But amidst violence and carnage, territorial aggrandizement and imperial dreams, another force was at work which was manifested at a hunting ground on the banks of the Sutlej in 1577. He changed in a few days from a hedonist ruler to a pilgrim in search of eternal verities. Returning to Fatehpur he summoned Sayids and Ulemas, Jesuit priests, and Hindu pundits to show him the path of truth. Instead of pursuing personal salvation like Asoka, Akbar sought to evolve a religious synthesis that would weld his disparate subjects into a cohesive nation. He adopted Hindu customs, married a Rajput princess, abolished the iniquitous jizya tax on Hindus, and summoned holy men to establish Tawheed-i-Ilahi, a monotheist creed that synthesized all religions. Fatehpur Sikri was the symbol of his unique dream.

Enclosed by high thick walls and massive gateways each leading to important regions (for example Delhi Darwaza, Gwalior Darwaza, Lahore Darwaza) this citadel city like the Moorish Alhambra and the Russian Kremlin comprised palaces, offices, audience halls, entertainment chambers as well as quarters for soldiers and stables for horses and elephants. The core of the citadel is the palace complex where we see the treasury or the Daulat Khana, the Haram Sara or women's quarter, the simple yet massive Diwan-i-Am where Akbar dispensed justice. Here as in the Daulat Khana and Diwan-i-Khas the exterior is simple and solid and uniformly in red sandstone resembling the buildings of Rajasthan. The interiors however have the delicacy of Islamic architecture with intricate jaali works, graceful pavilions, elaborately carved pillars and stone brackets. The Daulat Khana complex is even more austere from the outside. Akbar's chamber in the Diwan Khana-i-Khas has elegance and grace. It was here that he held discussions with his counsellors. Nearby was the Haram Sara. Close to this edifice is the Anup-talao where stone steps led to a shallow tank where Akbar listened to music in the evenings. His celebrated musician Tansen had his pavilion further away, a graceful edifice that greets one upon entry



View of the citadel, Fatehpur Sikri



Majestic view of Fatehpur Sikri

to Fatehpur Sikri. Akbar's favourite counsellor Birbal was housed nearby. It is more like a Rajput palace than an Islamic scene and the wall brackets outside have the heavy ornamentation of Hindu architecture.

Like the desert Moors in Spain who reveled in buildings baths and fountains, the Mughals also built Hamams in their palaces. Fatehpuri Sikri contains the largest cluster of royal baths whose architecture and ornamentations recalls those of the Alhambra.

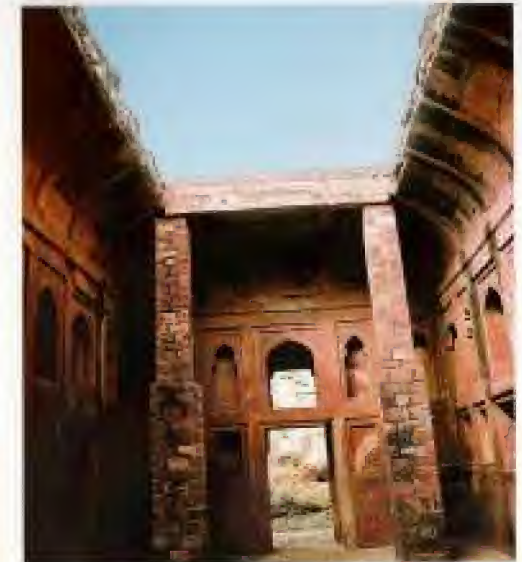
Some distance away from the place of governance is the Jami Masjid that again is a fusion of Rajput and Persian architecture. With an open courtyard and cloisters the mosque was built to the memory of the saintly Salim Chishti whose benediction, it is said, brought about the birth of Akbar's heir the future Jahangir who was originally named Salim. The prayer hall of the Masjid has an arcade of arches while the pillared bays have exquisite geometrical stone designs. Finally we come to the tomb of Salim Chisht who's chaste and delicate beauty reflects the personality of the saint. It would be copied by Akbar's heirs in Red Fort and in Agra Fort.



Hammam complex near Tansen Baradari,
Fatehpuri Sikri - before scientific clearance



Hammam complex near Tansen Baradari,
Fatehpuri Sikri - after scientific clearance and conservation



Baiju-Ka-Makan - before conservation

Glory Regained

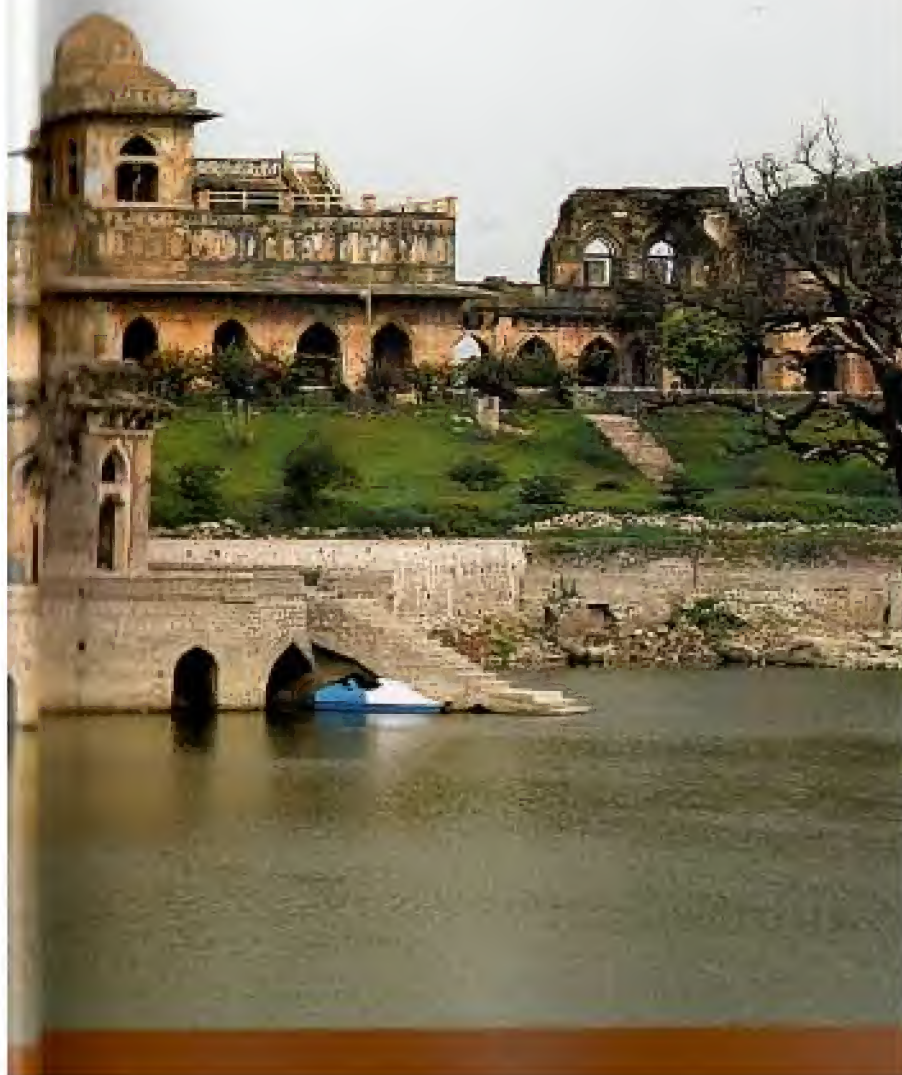
Conservation work has been undertaken in the Dargah of Salim Chishti at Fatehpur Sikri. The inner dome has been repaired by removing the decayed veneering stones and replacing them with new ones. Conservation work has been taken up to replace all decayed and worn out stone veneering. Inlay works have also been undertaken. Photo documentation have been carried out before fresh restoration is taken up. The roof of Baijuka Makan have been repaired and missing beams and slabs have been provided as per the original position. The roof has been watertightened with lime mortar. The bulged side wall of the Baijuka Makan have been reset by using the original stones. The beautiful Baradari of Tansen has been conserved by restoring fallen stones to their original position. Underpinning and watertightening has also been effected. Conservation measures have been taken up for repairing the entrance of Jami Masjid and restoration of the Kaichi hamam has been undertaken. The fallen portion of Dalan of the Daftar Khana has been restored by replacing broken and missing pillars, brackets, beams and red sandstone slabs. Restoration measures have also been undertaken at Sarnasa Mahal in which old stones have been used for resetting the structure. Fortification wall near the Agra gate has been conserved by using fallen old stones in composite lime mortar. The broken and missing red sandstone and pillars of Lal Darwaza have been provided with new ones according to the original designs.



Baiju-Ka-Makan - after conservation



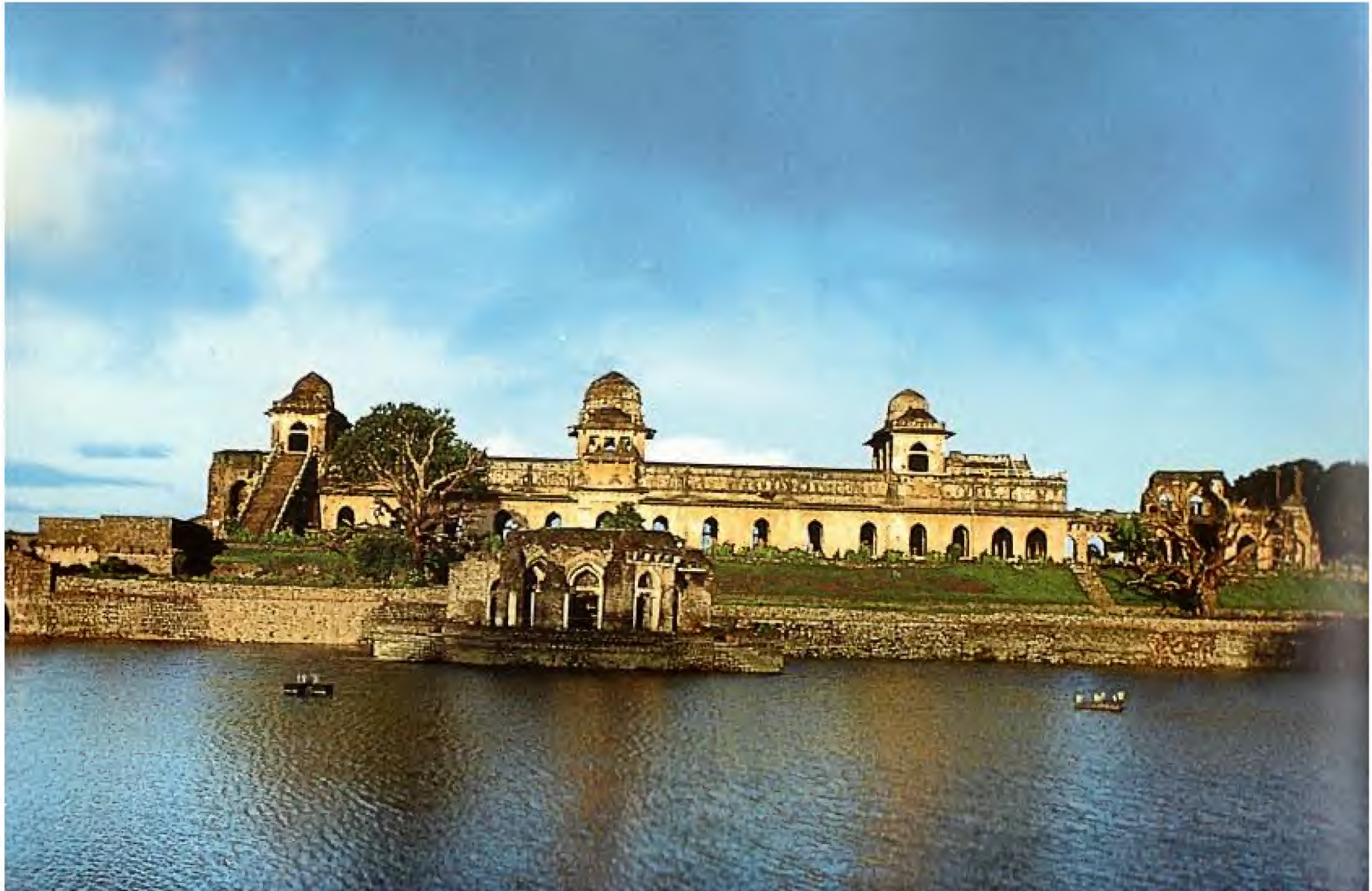
Kapur Tank against the backdrop of Jahaz Mahal, Mandu.



Monuments of Mandu

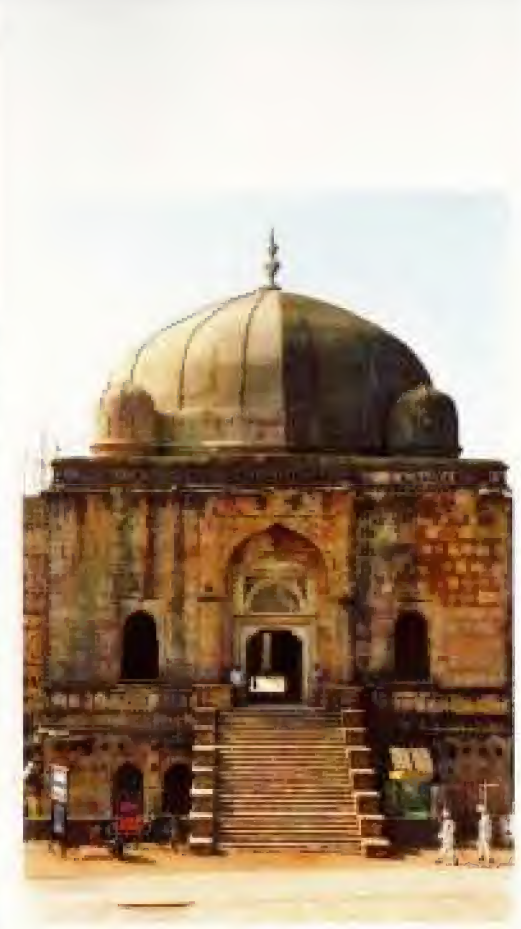
Madhya Pradesh

Mandu is situated in Madhya Pradesh in the province of Malwa. It was originally ruled by the Parmaras state until annexed by the Delhi Sultan Allaudin Khilji in 1305 AD who installed a governor here. The first constructions taken up were mosques which used pillars of Hindu temples for construction as in the Qutb Minar of Delhi. Encouraged by the political instability, the Ghauri governor Dilawar Khan, declared his independence in AD 1401. He was succeeded by his son Hoshang Shah who shifted the capital from Dhar to Mandu. The new ruler improved upon the earlier fortification bordering the plateau, overlooking the rift valley on three sides. The fortification with a labyrinth of gateways was one of the most formidable of its time.



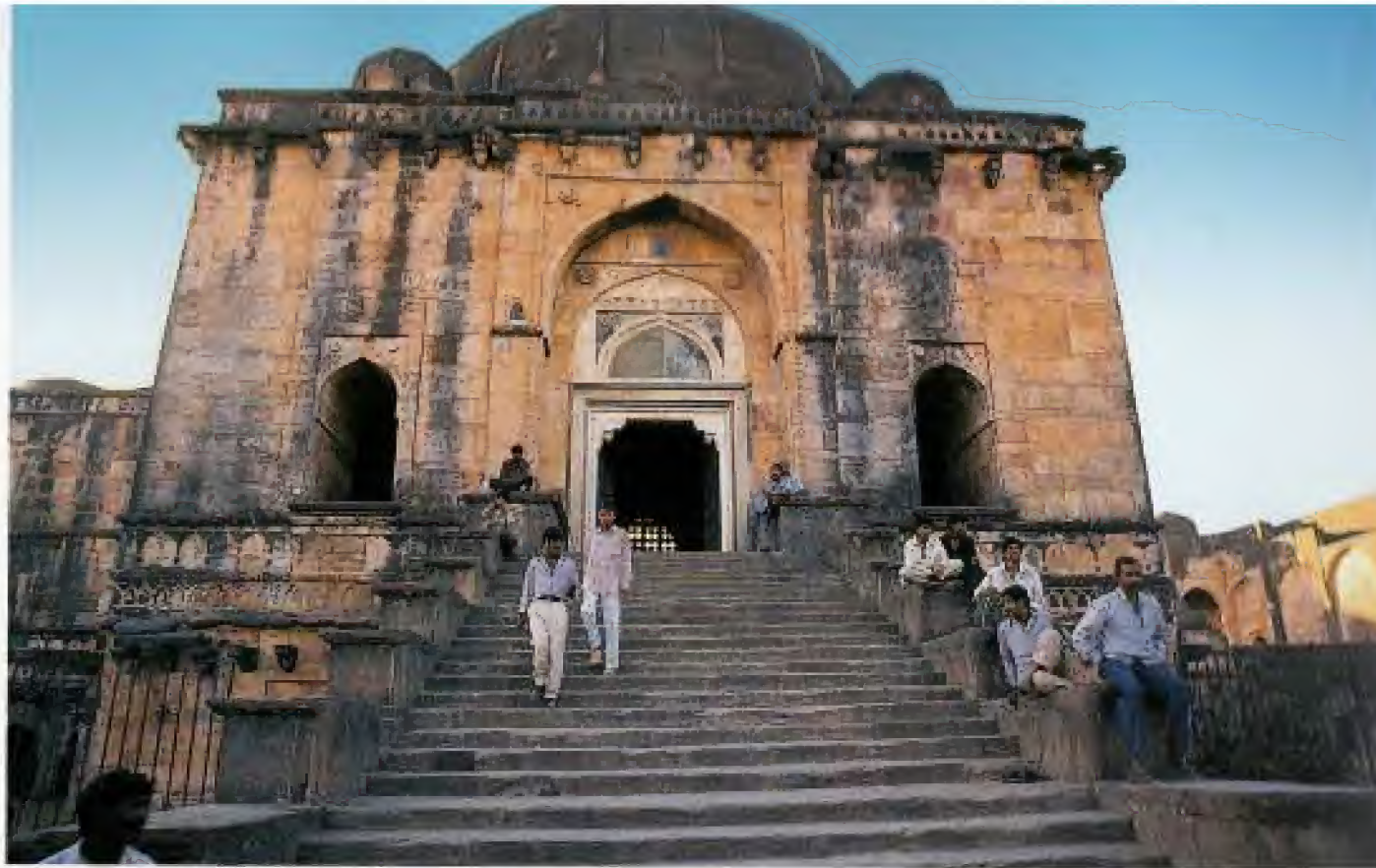


Jahaz Mahal, Mandu



Jami Masjid, Mandu

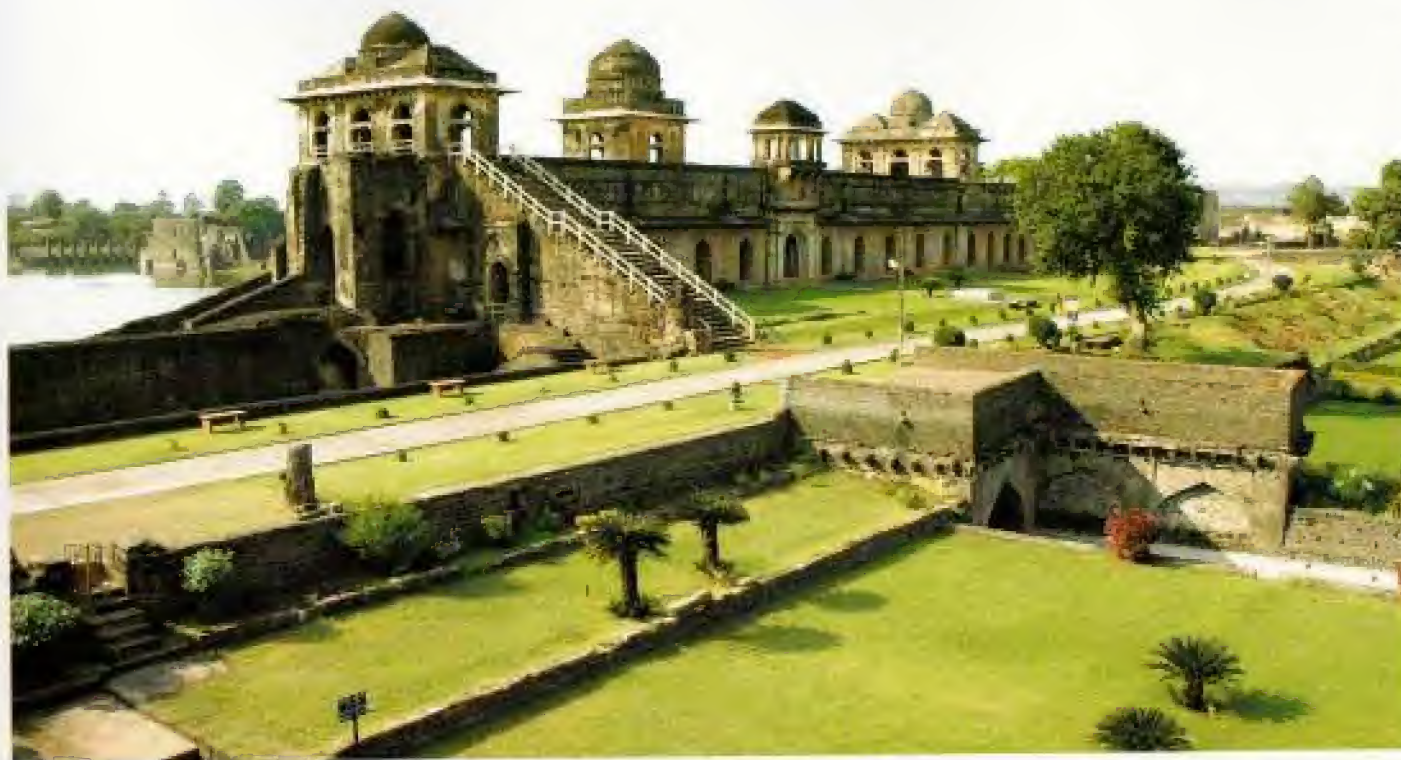
The notable monument of Mandu is the Jami Masjid which is in the centre of the plateau. It was built on a massive scale with an impressive entrance from the east and a main arched doorway. A sturdy dome tops the edifice. There are cloisters surmounted by small domes. The courtyard is enclosed on three sides by cloisters with large arches. The masjid is faced with red sandstone and embellishments. To the south-west of the Masjid lies Hoshang Shah's tomb built with white marble.



A closer view of Jami Masjid, Mandu

The Ashrafi Mahal served as a madrasa with an open court and small cells for students. The Hindola Mahal was the hall of audience, having separate access and chamber for the royal ladies. Ceremonies were performed in the hall with enormous arches. The architectural style is still heavy and recalls the sturdy buildings of Afghanistan. The Jahaz Mahal was built by a Khilji ruler who brought a new style to the heavy and solemn existing buildings. This Mahal is situated between two water bodies, the Kapur Tank and the Munj Tank and appearing like a ship (Jahaz).

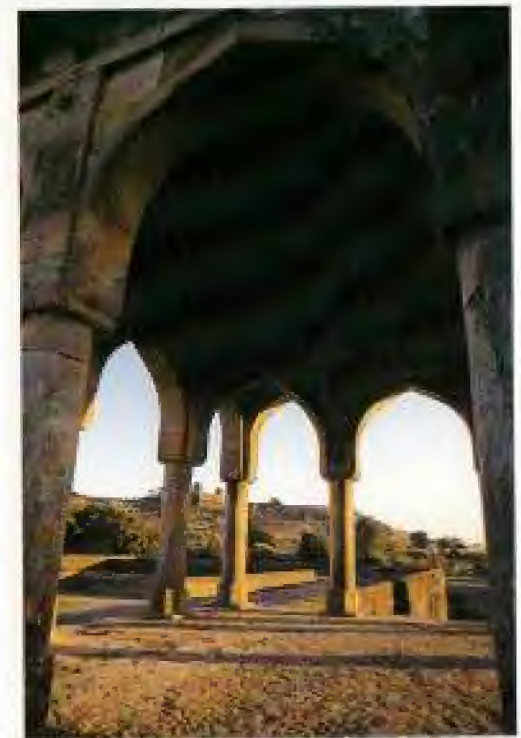
Mandu is associated with the romantic stories of one of its rulers Baaz Bahadur and Rupamati whose romance reconciled the two communities for a while. This ruler built two pavilions on the edifice now known as Rupmati Mahal, to facilitate her daily Narmada Darshan.



Jahaz Mahal, Mandu - after conservation

Glory Regained

The fallen chhatra as well as the dislodged lower portion of the Rupamati Pavilion has been restored. Watertightening, flooring and plastering have also been undertaken. A number of arches which were part of Jal Mahal have been restored and the dislodged brick works have been pointed. Underpinning and restoration of the monument along with watertightening and plastering have been undertaken. The dislodged cells of the Caravan Sarai have been restored. Conservation works have been undertaken in other monuments of Mandu such as the Royal Palace, Jal Mahal, Nahar Jharokha, Hati Paga Mahal, Dilwar Khan's mosque, Hashang Shah Tomb.



A view of Rupamati pavilion through arches of the Raz Bahadur palace, Mandu



Ramparts of the invincible Agra fort

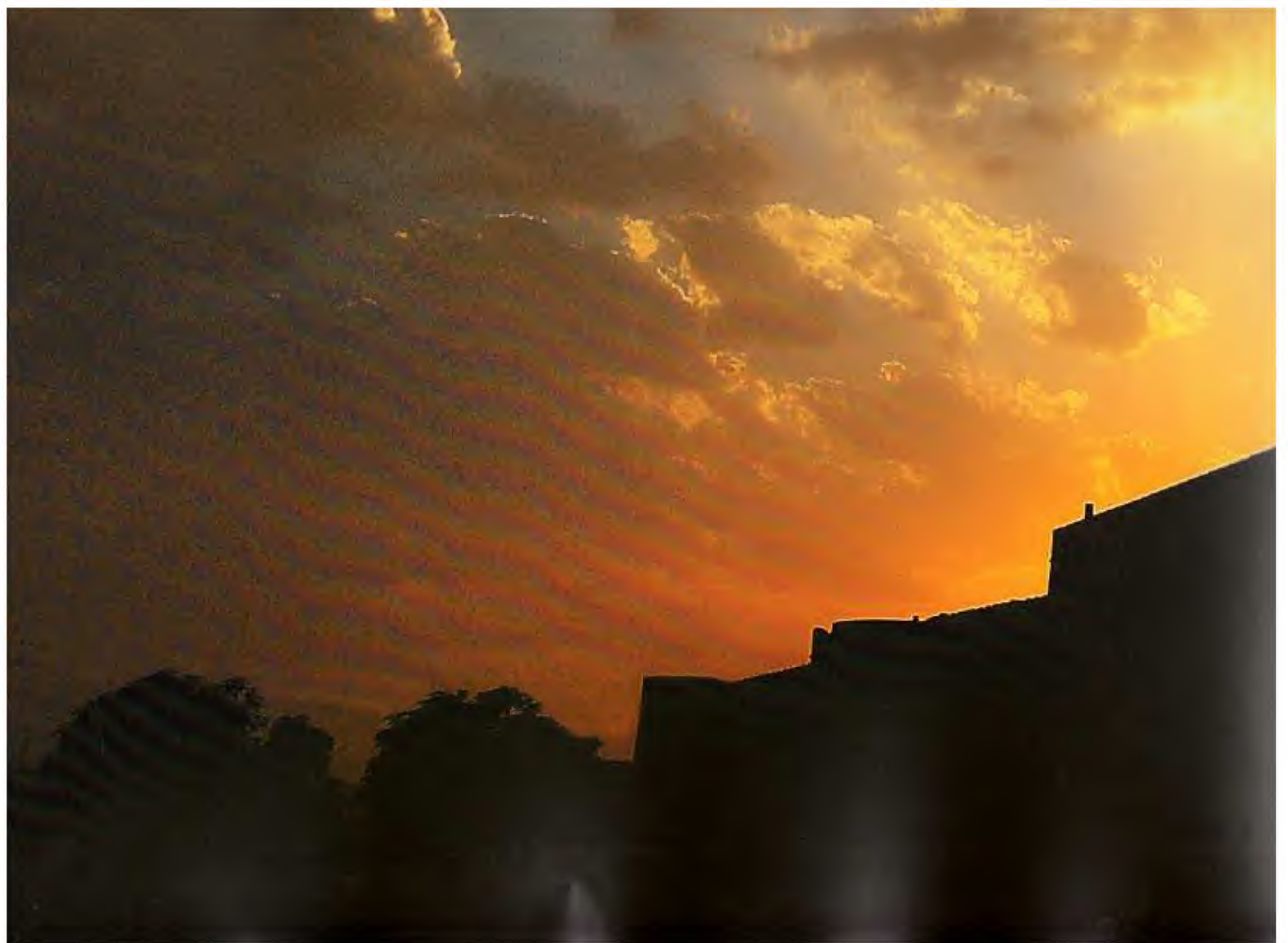


Agra Fort

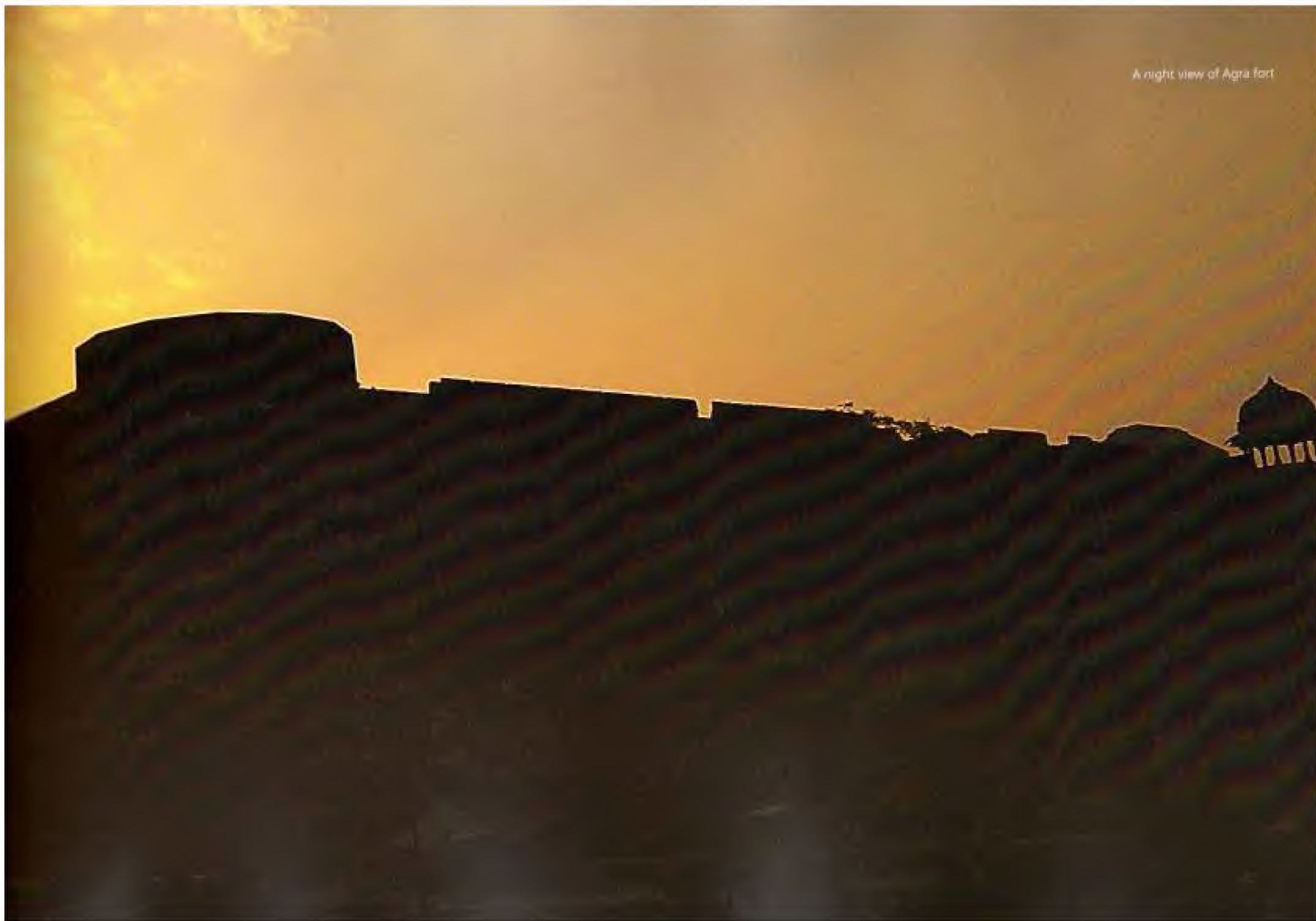
Uttar Pradesh

Agra is crowded with events and wrapped in legends. Situated in the land between the two rivers – Ganga and Yamuna – this area was called Brajabhumi where the life and legends around Lord Krishna were enacted. Kamsa, the Raja of Mathura is said to have built a fort here. Not far from Mathura and Delhi, Agra may have witnessed the events described in the *Mahabharatha*. Agra is first mentioned in chronicles by the Roman traveller Quintus Curtius as Aggrames. Excavations have revealed temples and monasteries, stupas and sculptures of both Hindu and Buddhist origin. Kanishka, the Kushan emperor built Buddhist structures here. It was named Badalgarh by a Rajput princess who built a fort.

The Muslim invaders saw the strategic importance of Agra and built fortified walls. Emperor Babur the first Mughal ruler sent his son Humayun to occupy Agra and seal its treasury. Thereafter he came to Agra. Yearning for the flowers and strings of his native Ferghana, Babur built a garden which he called Gulafshan which was later called Arambagh. Around this, Babur built a new residence of apartments, audience halls and baths. His nobles and generals followed suit; Agra became a city of streams and gardens. Humayun was crowned at Agra but challenged and defeated by Sher Shah, thereafter he fled to take refuge with Rajput princes and later in Persia.



A night view of Agra fort





The arched and ornately carved interior of Pearl mosque, Agra fort

Emperor Akbar built his fort over the remains at the old citadel of Badalgarh and it is from here that he governed his vast realm; hearing petitions, dispensing justice, planning campaigns and propounding a new religion. Though Fatehpur Sikri is closely identified with him it is Agra which made the imperial capital and where he died. He was buried at Sikandra as per his wish. The sturdy red mausoleum was built in harmony with Akbar's personality.

The wealth and beauty of the Mughal court at Agra has been chronicled by emissaries of the English King in particular Sir Thomas Row. Jahangir's second wife Empress Noorjahan beautified the royal residence especially the Samman Burj and the Jahangir Mahal. Jahangir's son Shah Jahan expanded the Agra fort and brought to it the grace and elegance for which his buildings are renowned.

The fort is three kilometres in circuit and is surrounded by a double wall of red sandstone with flanking defences, towers, turrets and crenellated battlements. Crossing the moat, one enters the inner area of the fort through the Delhi gate, a massive structure of red sandstone ornamented with white marble. The Akbar-i-Darwaza has a wooden drawbridge with stone paved road and shop curves. The gate is ornamented with glazed tiles in white marble.

Akbar's palace is situated at the southeastern corner of the Agra fort between the Bengali Mahal to the South and the Jahangiri Mahal to the North. It consisted of a spacious courtyard surrounded by large rooms. The palace was built in red sandstone. Its construction is of the trabeate order and is occasionally embellished with a four centred arch.

The Jahangiri Mahal situated in the south-east corner of the Agra fort overlooks the Yamuna and the surrounding moat and is adjacent to the Akbar Mahal. It is a double storied structure consisting of two courts, two vestibules and four wings varying in construction and design. The central court facing the north has a hall intricately carved with floral and geometrical designs. As in Fatehpur Sikri, the policy of blending Islamic and Hindu architecture is also reflected in Agra fort.

The Khas Mahal is a private hall which was the residence of Shah Jahan. The Sheesh Mahal is a pavilion almost embroidered with mirror work. The Anguri Bagh was used for growing grapes and is built in the style of house gardens introduced by the Mughals. The Mussaman Burj was built by Shah Jahan for



Eastern-side moat, Agra fort - after conservation



Eastern-side moat, Agra fort - before conservation

his wife Mumtaz Mahal. The Diwani-i-Khas was the private audience hall of the emperor. It is here that the momentous meeting between Shah Jahan and the representative of the East India Company, St. Thomas Roe, took place. There is the beautiful Meena Masjid nearby paved with alternate squares of marble and jasper where the emperor said his nocturnal prayers. The Diwani-i-Aam is situated within a great quadrangle and is encompassed by the imposing walls of the Akbari gate on the south. It is surrounded on three sides by arcaded cloisters with a large hall and a throne room. The roof and pillars are made of red sandstone with a veneer of white marble. The exquisite Moti Masjid is made of white marble and has the luminous delicacy of pearl. Echoes of the Taj Mahal are already heard here in the graceful proportions and in the harmony of construction of cupola and minarets. This was where the deposed Shah Jahan meditated, perhaps on the quirks of destiny.

Agra fort with its beautiful yet stately edifices is the culmination of Mughal glory and has a solemn majesty attuned to Mughal power and royal despotism. In some ways it invites comparison with the famous citadel of Muscovite Russia – the Kremlin.



Fortification Wall, Agra fort - after conservation



Fortification Wall, Agra fort - before conservation

Glory Regained

The debris and vegetation growth in the outer moat of the Agra fort were cleared thereby exposing the original central channel of the moat. The plaster of the side wall of the moat which was worn out has been replastered as per the original manner. Similar conservation measures have been taken wherever weaknesses were noticed in the moat wall. Extensive conservation work has been undertaken for restoring the fortification wall of Agra fort. The worn out and damaged veneering of the fort wall has been provided with new stones which match the original members. The Salimgarh area originally under the Defence Ministry has been handed over to the ASI recently.

Urgent conservation measures were undertaken to clear vegetation growth and repair the damaged portions of the walls by lime plaster wherever necessary. The Diwan-i-Aam of Agra fort was worn out due to the decayed lime plaster. This has been treated with lime mortar in keeping with the original design. The decayed red sandstone pan patli design



Eastern-side moat, Agra fort - before conservation



Eastern-side moat, Agra fort - after conservation



A section of moat, Agra fort - before conservation



A section of moat, Agra fort - after conservation

dasa, plain dasa, bracket, dab and door frame were replaced with new ones. Lime concrete floor in the southern side cells was conserved as per original design. Mughal style doors were provided in the opening of the cells. The decayed and broken white marble chhajjas at the back of Khas Mahal were replaced with new ones keeping to the original design. The octagonal type white marble railing and muttaka on top of Mussamman Burj roof have been replaced. Watertightening of the roof terrace of Jahangiri Mahal has been executed with lime concrete after removing the dead concrete and replastering the wall and parapet with lime mortar. All the decayed as well as the missing red stone flooring, chhajja, pillar base, pinnacles in the south-west courtyard have been provided. In the Meena Bazaar complex, lime plaster on the Lakhauri brick wall was done after underpinning with Lakhauri bricks. The decayed and bulged red sandstone members were replaced with new ones. Watertightening of roof terrace with lime concrete has been carried out. Similar measures have been taken in the Machchhi Bhavan.



Widely recognised icon of India - Red Fort, Delhi

Red Fort

Delhi

In 1638, the indefatigable builder Mughal Emperor Shah Jahan transferred his capital from Agra to Delhi and, a year later, began the construction of a huge fort called the Lal Qila or Red Fort as it has come to be called. Though it was a very large fort the construction took only nine years as compared to twenty years that went in the construction of the Taj Mahal. Shah Jahan employed two master builders named Hamid and Ahmed for supervising the construction of this fort.

The Red Fort is octagonal on plan and stretches to the east and west with high walls and is connected by a bridge with Salimgarh, built in the time of Emperor Jahangir. The fort is enclosed by a moat. The rampart walls with red sandstone veneering pierced with a number of gateways as in Agra Fort which took their names from the direction which they faced such as the Lahore Gate and the Delhi Gate. The tall gateways were flanked by semi-octagonal towers which contained apartments for guards and which served as look out towers. The impressive Lahore Gate leads to the Fort, roofed passage led to the palaces.

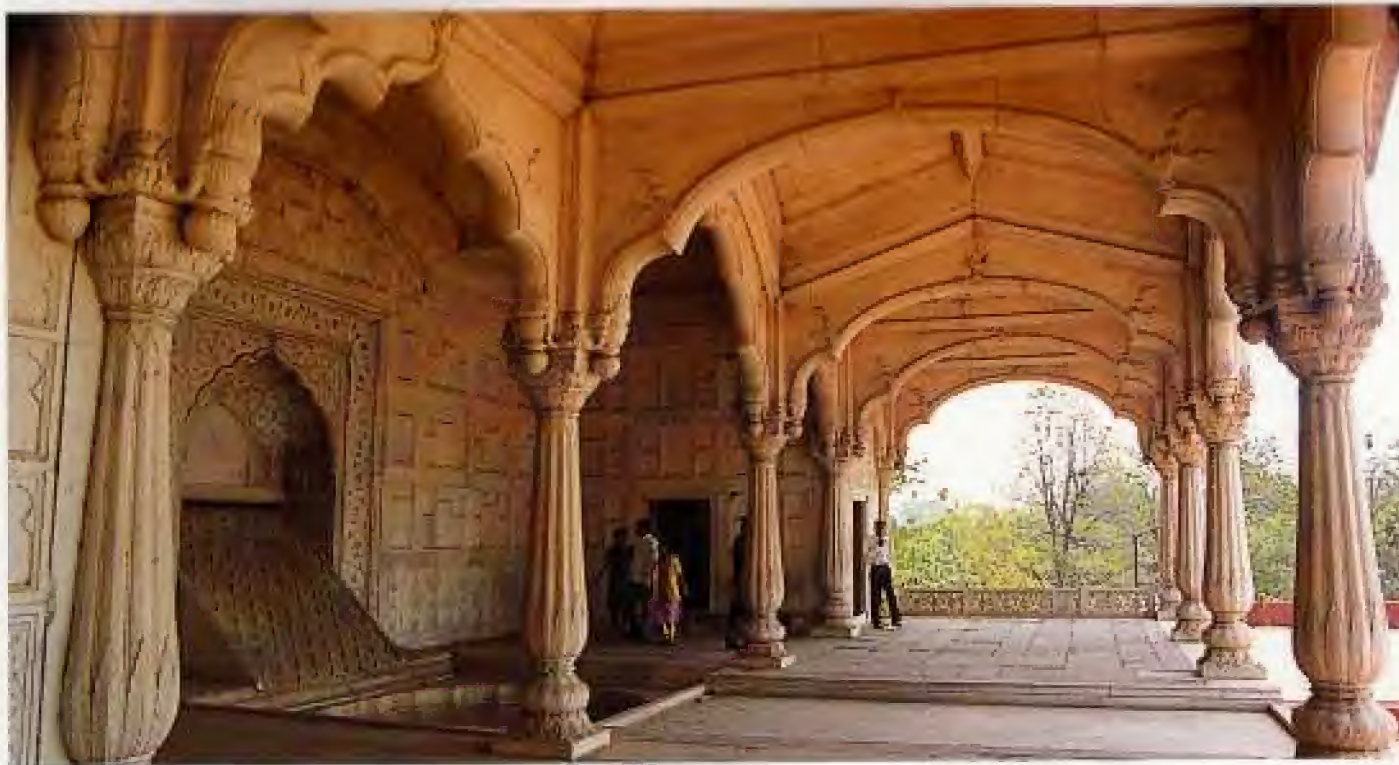
The Red Fort is known for several of its palaces and pavilions. The most impressive is the Diwan-i-Aam or the Hall of Public Audience. This is where the Emperor seated on the throne covered by a marble canopy, received the subjects and heard their complaints. A marble dais stood below the throne where the Prime Minister received petitions from the public. The hall itself was originally ornamented with gilded stucco work. The entire hall is raised on arches and pillars. Behind the canopy are paneled walls inlaid with semi-precious stones with floral designs and buds.



Mehma Bazar, Red Fort, Delhi



Dhami-Khas, Red Fort, Delhi



Diwan-i-Aam, Red Fort, Delhi

The Mumtaz Mahal stood at the southern end of the row of palaces. Veneered with marble, this palace comprised six apartments. Though the edifice is named after Shah Jahan's consort it became the harem for the women of the court. Another palace is the Rang Mahal that is a large hall with six apartments. The walls and ceilings are encrusted with mirror pieces which coruscate with the slightest shaft of light. Due to the mirrors, the apartments are known as Shish-Mahal or the house of mirrors. This also was part of the royal harem. A stream known as Nahr-i-Bihisht or stream of paradise flowed through the six main palaces which originally existed along the river front i.e. eastern rampart. The Emperor's private apartments were in the Khas Mahal with rooms for prayers, a sleeping chamber known as Khwabgah, the Tosh-Khana or robe room and the Baithak or sitting room. Entertainment was organised below these palaces for the benefit of the Emperor and his harem.

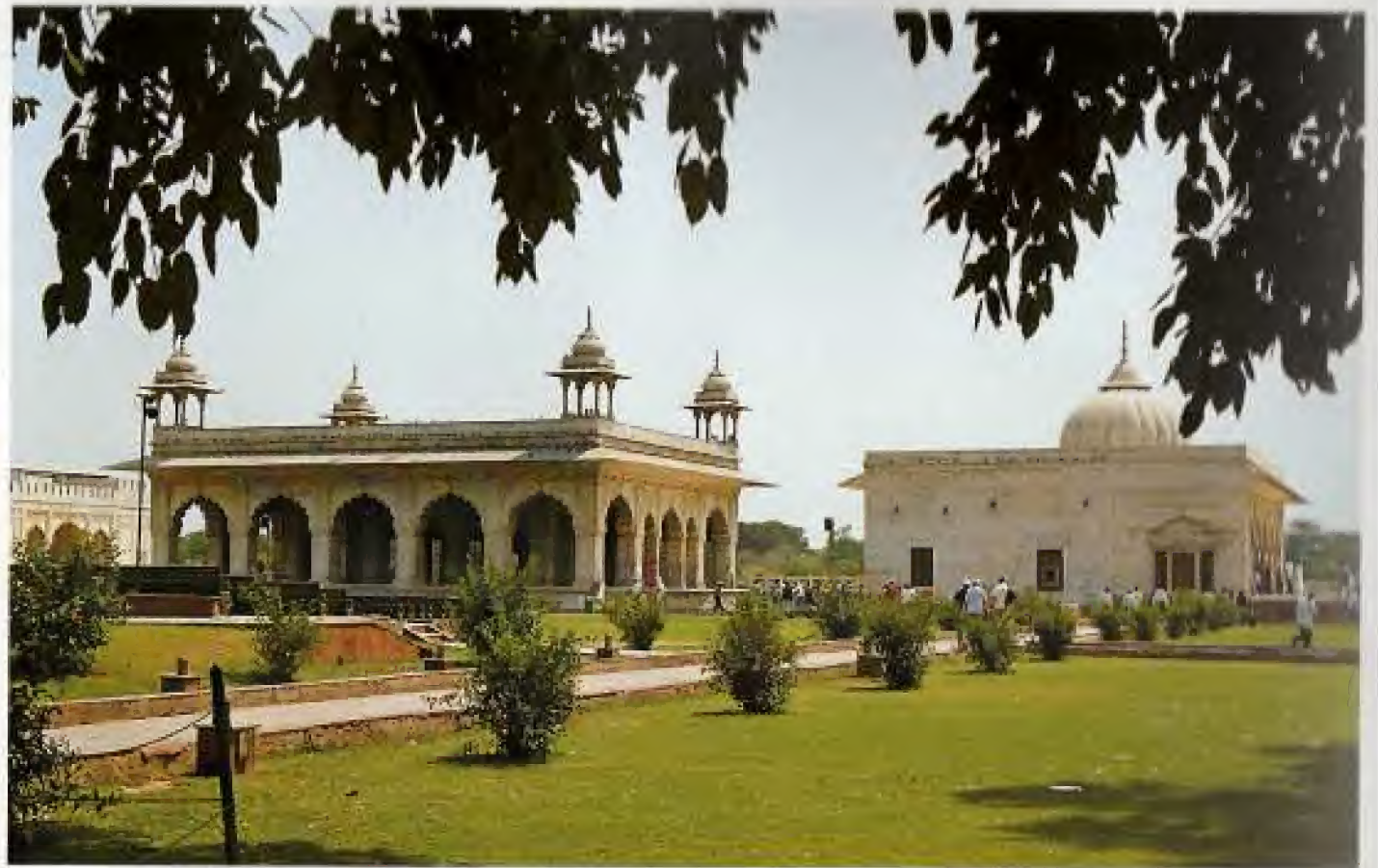
The Diwan-i-Khas or the hall of private audience was where the Emperor met his councilors and important visitors. The famous Peacock Throne stood here till 1739 when it was looted by the invading Nadir Shah of Persia. It was surrounded by engrailed arches which rose from piers which were inlaid with stones of floral design in lower part while upper portion was gilded and painted. Pillared *chhatris* rise on the four corners of the roof. The stream of paradise flowed through the centre of the hall. The famous verse of Amir Khusrav exclaiming, "if there be a paradise on the



Diwan-i-Aam, Red Fort, Delhi



Decorated pillars and arches adorning the interiors of Sawan Pavilion, Red Fort, Delhi



Diwan-i-Khas and Khas Mahal, Red Fort, Delhi



Moti Masjid, Red Fort, Delhi

earth, it is this, it is this, it is this" is inscribed over the corner arches of the northern and southern walls below the cornice. Apart from giving audiences, the Emperor showed himself to his subjects standing on an octagonal tower near his sleeping chamber called the Muthamman Burj. The daily morning *darshan* was intended to reassure his subjects that the Emperor was alive and well.

Like all Mughals, Shah Jahan built elaborate bath-chambers or hammams located to the north of the Diwan-i-Khas comprising three apartments. The floors were of marble inlaid with semi-precious stones. The two bath-chambers on either side were used by the Imperial children. There were fountains of rose water where the Emperor dressed after his bath. To the west of the hammam stands the Moti Masjid (Pearl Mosque) built by Aurangzeb for his personal use which is an imitation of the Moti Masjid of Agra.



Barracks built for the British army, Red Fort, Delhi

No palace complex of the Mughals was complete without gardens and fountains. Shah Jahan had studied hydraulics and knew a great deal about the mechanism for lifting water from the river, laying of channels and fountains. The water for Nahr-i-Bihisht was lifted from the river Yamuna and carried through Nahr-i-Bihisht to different palaces. The Hayat-Bakhsh Bagh (life bestowing garden) is built on the plan of Mughal gardens that divided into square with channels flowing between them. Nearby were two marble pavilions named after the monsoon months of Sravan and Bhadon which were used by the royal family during the rainy season. Bahadur Shah-II built three more pavilions known as Moti Mahal and Heera Mahal and a pavilion in the centre of the garden built in red sandstone, called Zafar Mahal.

The Red Fort is redolent with history. Many dramatic episodes took place within its red sandstone crenellated walls. After the capital moved from Agra, the focus of the Mughal Empire shifted back to Delhi and, for two hundred years, the vast empire had ruled from here. The Red Fort was the scene of rebellions and murders, intrigues and alliances, executions and entertainments. It was from here that the uprising of 1857 began when the last Mughal Emperor Bahadur Shah Zafar was asked to lead the revolt against the rule of the East India Company. Though the British capital continued to be in Calcutta the heart of governance even in its phantom stage was in Delhi. Finally in 1911, the British Government decided to shift the capital to Delhi which had been the imperial city of India for many centuries.

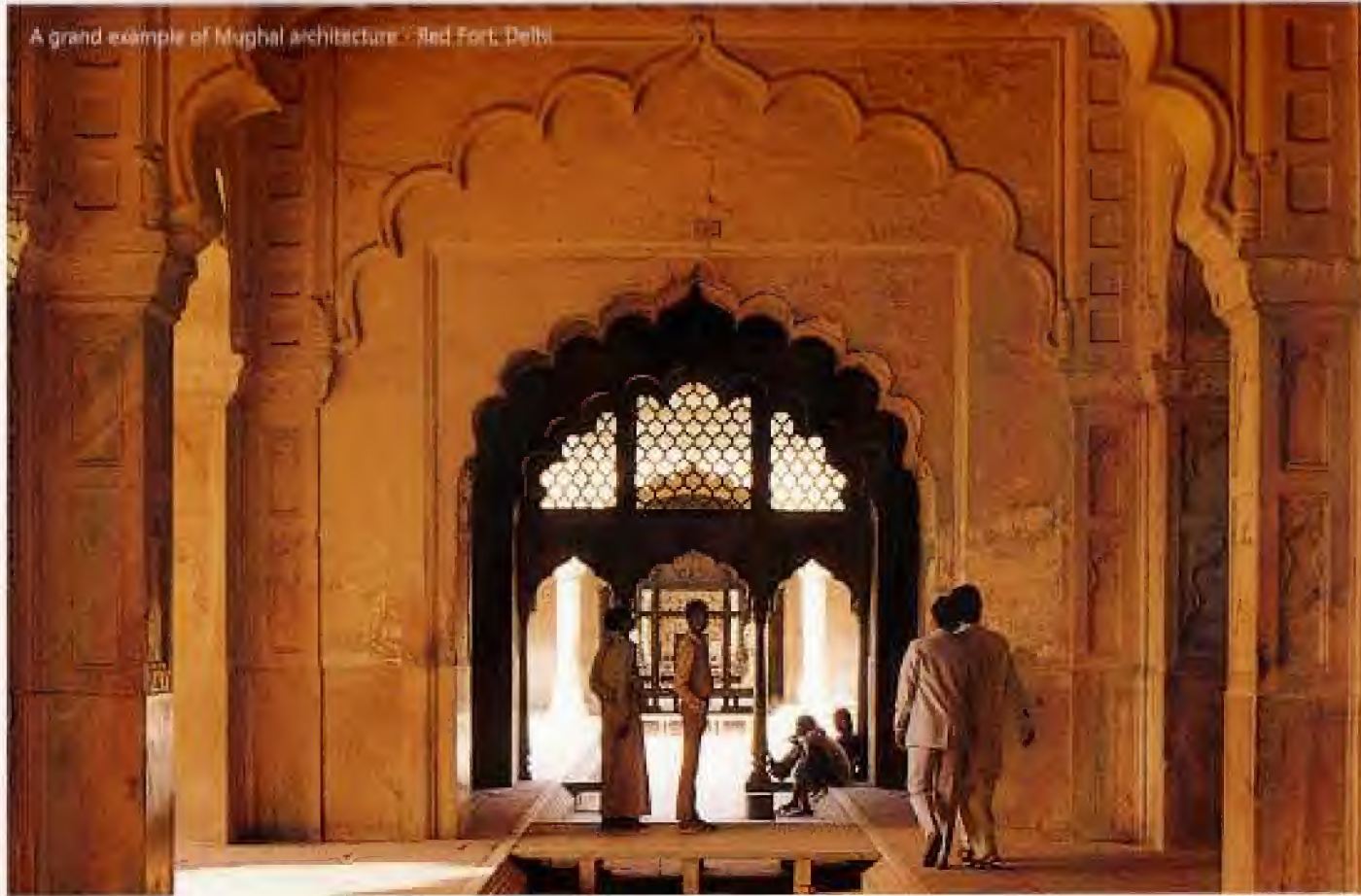


Intricate jali work, Red Fort, Delhi



Intricate inlay work on pillars, walls and arches - Red Fort, Delhi

A grand example of Mughal architecture - Red Fort, Delhi

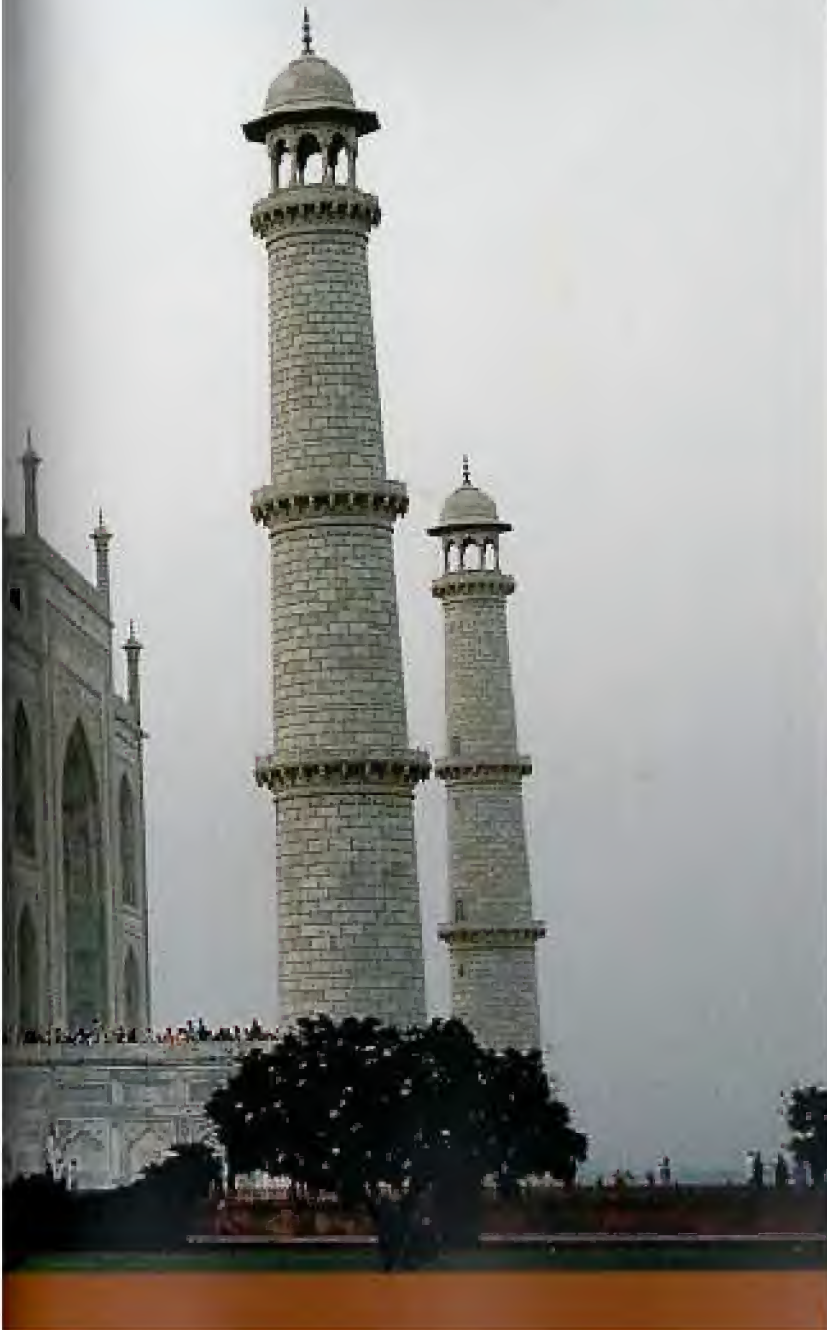


Glory Regained

The Archaeological Survey of India has been conserving the monumental remains of Red Fort since its protection. Recently, the entire area of the Fort has been acquired by the ASI and environmental development all around is undertaken. The buildings suffered damages in the earthquake of 1904-05 and the conservation measures have been taken up to maintain the original nature of the structures by way of replacing damaged and decayed stones, restoring some panels of the inlay work in Diwan-i-Khas, repairing the roofs of Hammam and Diwan-i-Aam, replastering the outer walls of Moti Masjid matching with the original designs and texture, extensive repairs to the Shah Burj and Asad Burj. The buildings constructed during the occupation of Red Fort by the British forces are preserved and conserved as per original.



A monument of devotion – Taj Mahal, Agra

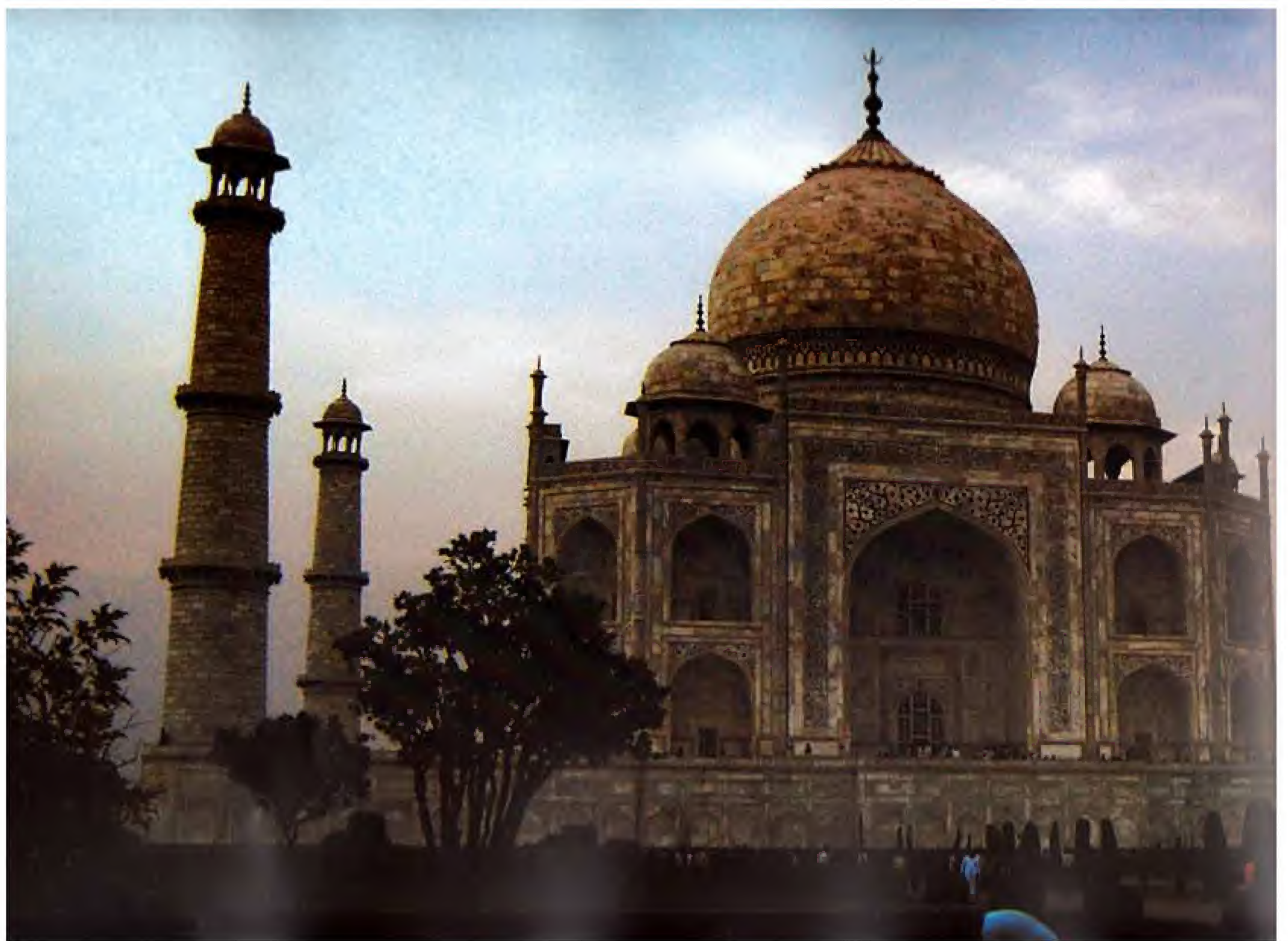


Taj Mahal

Agra, Uttar Pradesh

Rarely has the ideal of immortal love been carved in stone. Rarely have monarchs in search of new kingdoms and glory left a memorial to their love. Shah Jahan, Emperor of India, possessor of a vast and a varied harem, built the Taj Mahal over the tomb of his consort Mumtaz Mahal. Ironically it is this mausoleum that became his claim to immortality.

Perhaps something in Mumtaz Mahal inspired this exquisite edifice. She was merciful in an age of cruelty. Many, under orders of execution, were reprieved through her intercession. While her aunt Empress Noor Jahan ruled over an emperor and his domain, this gentle empress followed her husband in camp and died after bearing fourteen children in nineteen years at the age of thirty-eight. She was given a temporary burial at Burhanpur until her body was brought to Agra and a site was located on the bank of the river Yamuna near the mansion of Raja Mansingh. Shah Jahan purchased this land and gave the Raja four havelis.







Marble inlay work, Taj Mahal, Agra



Main entrance gate to Taj Mahal, Agra

Last in grief, quote chroniclers report, the emperor gave up the luxuries of royal life and oscillated between thoughts of renouncing the throne and pursuing grandeur. Perhaps the Taj Mahal was the sublimation of his grief. Perhaps it was the culmination of the Mughal passion for building. "The Mughals built like Titans and finished as jewellers". This is amply demonstrated by the early Mughal buildings of Akbar's time to those of Shah Jahan. While Agra fort bears the stamp of the strong and pragmatic Akbar, Jahangir's contribution was more aesthetic until Shah Jahan imparted to his creations a feminine grace. The Taj Mahal was the pinnacle of this jeweled finish in architecture.

The construction work began in 1631. Masons and craftsmen, architects and engineers were summoned from various parts of India to participate in this architectural enterprise. Men came from Persia and Central Asia; Geronimo Veronico came from Italy. It was however entirely Indian in conception and execution.



Ornamentally done eternal resting place, Taj Mahal, Agra



inscriptions on the Taj, Agra

The edifice was built mainly with bricks, red sandstone and marble. In the main mausoleum, the brick work is thinly veneered with a superior quality of marble while in the remaining building the veneering was done with red sandstone and used for the exquisite inlay work that used semi-precious and precious stones imported from different parts of the world; jade and crystal from China, turquoise from Tibet, amethyst and sapphire from Sri Lanka, coral from South India, carnelian and onyx from Rome, lapis lazuli from Persia, jasper from Punjab and diamonds from the Panna mines of Central India. This great architectural enterprise took seventeen years to execute and fifty lakh of rupees to build.

The beautiful inscriptions carved on the mausoleum in Thulth script was done by Abdul Haq Shirazi. The inscription in Naskh script on the sarcophagus of Mumtaz Mahal was designed by the poet-calligrapher Khwaja Ghiasuddin.

The entrance to the Taj Mahal overlooks a large quadrangle surrounded by arcades. The court has three entrance gates to the east, west and south. The majestic entrance of the main complex built in red sandstone overlooking the fore court in front and the *charbagh* pattern garden at the back is impressive by itself. The façade has a vaulted arched recess set within a rectangular frame with similar but smaller alcoves in two stories on each side. The red sandstone surface is inlaid with white marbles and semi-precious stones. Inscriptions in black marble give it a touch of the sombre, a reminder of its status as a mausoleum. Taj Mahal is set on a high marble platform with four slender marble minarets standing like silent sentinels by its side with small domes that echo the leitmotif of the central cupola. Below the cupola are two similar ones, flanked again by thin pillars. The marble façade comprises four arches on each side of the central arch. This imparts to the building a lightness and delicacy. The central hall is octagonal in shape where the sarcophagus is encircled by marble screens that resemble lace. This hall is surmounted by a vaulted ceiling upon which reposes the famed bulbous dome placed on the centre of a high drum.

In its totality, the Taj Mahal is a building of unsurpassed grace and paradoxes. Large yet seeming to be ethereal, fretted with inscriptions and arabesques, it seems to be at once chaste and unadorned, embellished with a riot of colours while emphasising the purity of marble.

Seldom has a sepulcher pulsated with such life and warmth. Shah Jahan ensured the vernal memory of his beloved empress by giving the structure an ethereal, almost a bridal appearance. The art historian E Smith has mused that "it seemed in a moment it would soar into the sky".



Eastern Enclosure Wall of Gaushala Courtyard, Taj Mahal - before conservation



Eastern Enclosure Wall of Gaushala Courtyard, Taj Mahal - after conservation

Glory Regained

Structural and chemical conservation of Taj Mahal receives utmost attention as this is the most famous monument in India. In recent years the river-side wall of the red sandstone platform at Taj Mahal had deteriorated and the inlay work was missing in many places. To prevent further deterioration, the worn out stones were removed and replaced with new ones after petrography analysis. The missing inlay work was restored after observing the original designs. The bulged out eastern wall of the Taj Mahal complex was in a precarious condition. The wall has been restored by providing stone veneering as per the original and the core has been filled with original lakhauri bricks in lime mortar. The courtyard of the Fatehabad gate has been developed as a tourist facilitation centre by conserving the cells and the dahan. The open portion of the courtyard has been provided with brick-on-edge flooring of the Mughal pattern along with Mughal style doors at the main entrance. The open terrace and staircase of the south gate of Taj Mahal which were badly decayed and where inlay work was missing have been repaired with underpinning with lakhauri bricks and replacement of inlay pieces according to the original design. Similar measures have been taken at the main entrance gate. In the main mausoleum itself the white marble outer façade and minarets was treated by recessed pointing with special lime mortar. The missing inlay pieces have been restored as per the original. Clearing and removal of vegetation in the collapsed portion of Khan-e-Alam have been carried out.

Spring amidst the apricot blossoms - March 2000





Mattancherry Palace

Kochi, Kerala

The Mattancherry Palace of Kochi in Kerala is one of the first buildings constructed by the Portuguese in India in the middle of the sixteenth century. The construction of the palace tells about the story of the advent of the Portuguese to India.

Vasco da Gama reached the south-west shores of India in May 1498 and inaugurated the modern colonial age. After landing in Calicut, the capital of the Samuthiri Raja (or the Zamorin as the Portuguese called him) it became clear that the Zamorin would not encourage Portuguese incursions in his territory. Further, the Zamorin was an ally of the Arab traders who were the main merchants of spices and carried these to Europe. Casting around for allies, the Portuguese found in the ruler of Kochi a willing partner. Repulsed by the Zamorin, the Portuguese allied themselves with the Raja of Kochi who gave them land to build factories and agreed to let them trade in spices. Some decades later, the Portuguese built the Mattancherry Palace for Vira Kerala Varma, the then ruler of Kochi. When the Dutch defeated the Spanish Empire which had annexed Portugal after the death of the heirless King Sebastian and took over Portuguese trade in Kerala. To please the Raja of Kochi they virtually rebuilt Mattancherry Palace on a larger scale. Subsequently, the renovated palace came to be known as the Dutch Palace.



Archaeological Museum, Mattancherry (Kochi), Kerala



Jewish Synagogue, Mattancherry



Locals conversing with a tourist, Mattancherry

The palace is a two-storied long quadrangular building. It is constructed in the traditional Kerala style with a central courtyard. The ground floor had chambers that housed members of the royal court while the upper storey was for the royal family comprising an assembly hall, a coronation hall, the royal bed-chamber. The walls are lined with colourful murals depicting scenes from mythology and the epics. The royal bed-chamber walls portray episodes from *Ramayana*. There is also an area meant for the royal concubines. As Kerala abounded in timber, extensive use is made of locally available wood. The panels are intricately carved, the wooden doors and windows are richly decorated and there is a profusion of rafters and beams.

Mattancherry Palace is now a museum where portraits of kings of Cochin, furniture, costumes, jewelry, weapons, and palanquins used by the Kochi Rajas are on display. Set against the ambience of the sixteenth century palace these artifacts provide an idea of the lifestyles of the Kochi rulers and the influence of Portugal in the south-west coast of India.



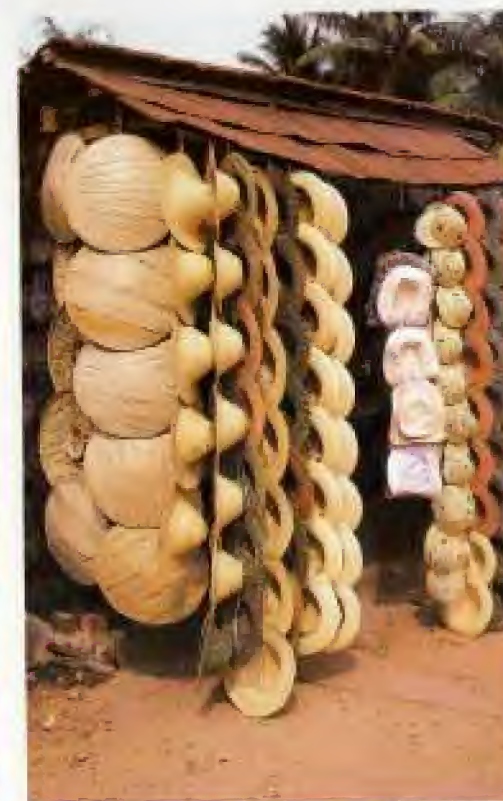
Inside Jewish synagogue, Mattancherry



Dutch palace, Maranberry



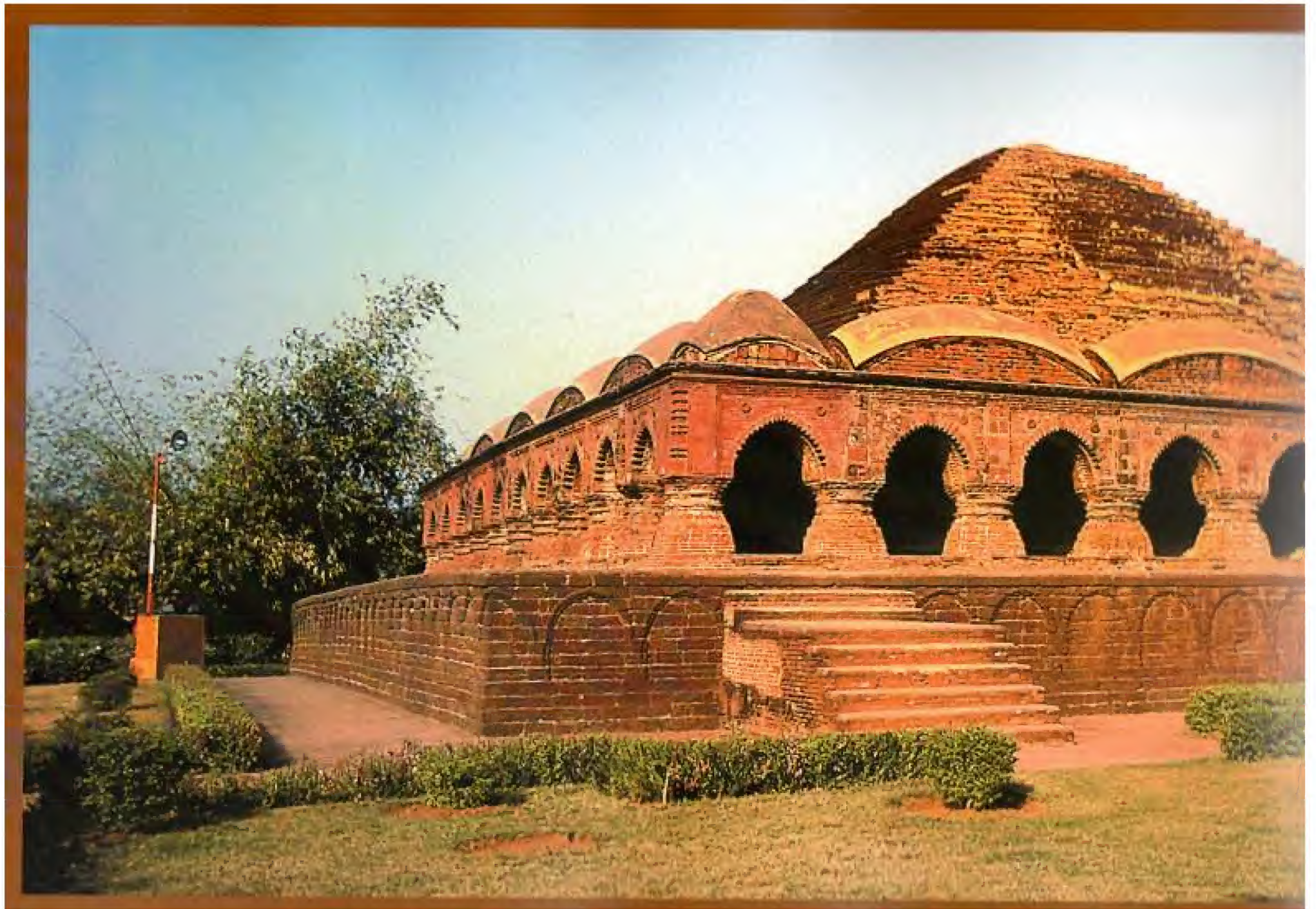
Frescoes, Jewish synagogue, Mattancherry



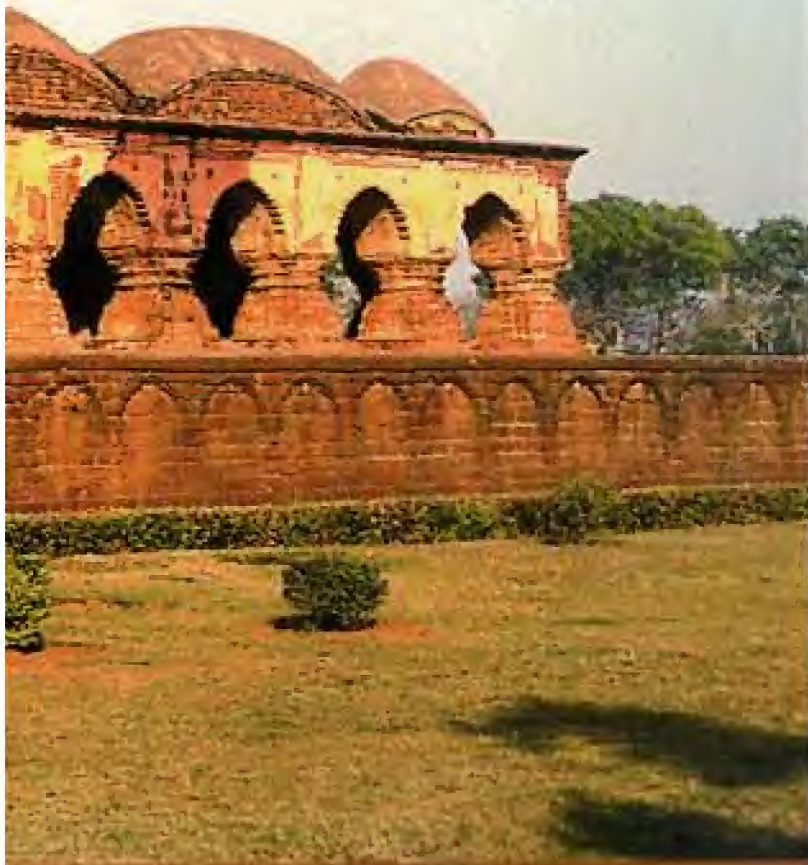
Traditional headgears, Mattancherry

Glory Regained

The architectural members, the wooden ceiling, etc. were chemically treated. The interior (where there were no traces of murals) and the exterior walls were whitewashed. The pathway all around the Palace was gravelled. The old painting on the windows and doors was scraped off and varnish applied. The mural paintings were cleaned, consolidated and applied with preservative coat. The leaky ceiling was conserved. The heavy layer of cement floor laid on the original wooden floor was removed in the northern wing of the building. The exposed wooden flooring was strengthened from below wherever required by providing wooden beams.



A terracotta temple, Bishnupur



Temples of Bishnupur

West Bengal

Bishnupur is known for numerous beautiful temples dating from late medieval times. It had once been the capital of a kingdom known as Mallabhum which comprise the districts of Medinipur, Bankura and Burdwan. It was a prosperous region which produced metal, silk, cotton and terracotta objects. It was also a centre of music known as the Bishnupur Gharana. Bishnupur was a centre of Sanskrit learning during the time of King Raghunatha who is credited with the building of some of the notable temples. Bishnupur rose to eminence at the time of Bir Hambir, a renowned Malla ruler. The influence of Sri Chaitanya converted him to Vaishnavism which in turn inspired him to build numerous temples. His son Bir Singha built a fort in Bishnupur as well as large irrigation tanks.



Radha-Madhai terracotta temple, Bishnupur

The influence of Vaishnavism is clearly seen in the temples dedicated to Lord Krishna. There are different groups of temples built in the Deul, Chala and the Ratna styles. The earliest edifices are known as the Rasmancha with a pyramidal roof and pillared vestibules on all sides. The temples are richly ornamented with intricate sculptures, massive pillars and arched entrances to the temples. The carvings are either in geometrical or ornamental nature or depict floral patterns and motifs of birds and animals. There are panels which represent scenes from the *Ramayana* and *Krishna Lila*. The unique feature of Bishnupur temples is their formation representing a thatched hut and sloping roofs on all four sides.



Central part of sikhara of Shyamrai temple, Bishnupur - after conservation



Central part of sikhara of Shyamrai temple, Bishnupur - during conservation

We start with the Jor Bungla or Keshta Raya temple which is built in the shape of a paired Bengali hut-shaped structures joined together and surmounted by a charchala tower on the top. The southern façade of the temple has three slender arches flanked by long narrow pillars all of which are intricately carved. There are scenes of *Krishna Lila* on the walls showing Lord Krishna sporting with the *gopis*. The sculptures are in terracotta and the raised wall-bands are decorated with floral and geometrical designs. The Madanmohan temple has a façade similar to the Jor Bungla and is built of brick. It is placed on a large plinth made of laterite and the façade is elaborately carved. The other three sides have arched entrances on the east, south and west sides. There is a single curvilinear tower. Here again on the walls and façades are scenes from the *Krishna Lila*. The arches are carved with elaborate and detailed terracotta figures. The Shyamrai temple, built entirely in brick, is both massive and proportionate and considered as the best in its elaborate terracotta decorations. All four sides of the roof is mounted by towers, each with four arches that have sloping roofs. The façades of the porches are elaborately carved with geometrical designs and scenes from *Krishna Lila* and *Rasa Mandala*. There are also battle scenes above the delicate terracotta arches. The Nandalal temple is built on a high plinth with four arched façades and is surmounted by a curved tower which is also carved with pillars. Ornamentations in this temple are above the three arched openings. The Radha Shyam temple replicates the Nandalal temple in structure. It is built in laterite and is known for its delicate stucco work. The temple has a curved roof with a single tower above. The walls and arches are decorated with geometric and floral designs along with scenes of the *Ramayana* and numerous figures of Radha and Krishna.



Nandalal temple, Bishnupur - before conservation



Nandalal temple, Bishnupur - after conservation

The preponderance of geometrical and floral motifs may be because by this time (sixteenth to eighteenth century) the Nawabs of Bengal were building Islamic style edifices with similar floral and geometric motifs. In conformity with this, the Bishnupur rulers introduced similar themes in their temples. The Bishnupur temples reflect the strong Vaishnava tradition of Bengal.



Nata Mandapa of Madan Mohan temple, Bishnupur - before conservation



Nata Mandapa of Madan Mohan temple, Bishnupur - after conservation



Radha Binod temple, Bishnupur - before conservation

Radha Binod temple, Bishnupur - after conservation



Glory Regained

The stability of the Radha Binod temple was endangered by an earthquake resulting in partial collapse of walls and the sikhara which exposed the core of the structure. The core has been strengthened and the collapsed portion restored to its original design. Due to the imbalance of the load distribution of the roof, the central sikhara of the Shyam Rai temple collapsed. After obtaining the original design of the sikhara, the restoration has been made accordingly. There was partial collapse of the east wall cornice and arches of the Nandalal temple which left the roof unstable. Measures have been taken to restore the collapsed portion of the roof while keeping to the original plan of the structure. Due to the decay of the brick structure of the gateway of Madanmohan temple as well as collapsing of the roof, both areas have since been restored. Investigative studies on the existing structural conditions were made and with the application of appropriate methodology, this ancient temple has been brought back to its original beauty.